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THE ABDERHALDEN-FAUSER REACTION IN MENTAL DISEASES

WITH SPECIAL REFERENCE TO DEMENTIA PRAECOX *

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After Abderhalden had demonstrated that the animal organism responds to the parenteral introduction of alien proteins by the appearance in the blood of proteolytic ferments which are directed more or less specifically against the proteins in question, the thought naturally suggested itself that similar reaction products might also appear, if proteins derived from the animal's own body were to find their way into the circulation. Theoretically, this seemed not at all unlikely, since practically every cell that is not bathed directly in the blood-stream must, in a manner, be alien to that medium. As a matter of fact, Abderhalden could demonstrate that in pregnancy, during which chorionic cells are known to enter the maternal circulation, corresponding ferments do appear and remain demonstrable as long as pregnancy continues. A basis was thus established on which a multitude of biologic and hence of pathologic questions also became subject to experimental investigation, and among these, of course, the problem of the long-suspected connection between certain mental diseases and the functional activity (namely, derangement) of the sex glands. So thoroughly has this been appreciated that there is probably not a single psychiatric clinic of note where serologic studies of this order are not now in progress. The general interest in this direction has been further accentuated by the enthusiastic reports which have emanated from Fauser's clinic concerning the findings in the dementia praecox group, and it is with this question more especially that we are concerned in the present communication.

In his address before the annual meeting of the German Psychiatric Association, held in Breslau in May, 1913, Fauser[1] reported that he had then examined some 250 patients afflicted with various forms of mental diseases, and that he had found protective ferments directed against sex glands only in dementia praecox; that the serum of male patients reacted only with testicular antigen and the serum of female patients only with ovarian antigen.

As negative reactions alone were obtained in the other purely functional psychoses, such as manic-depressive, hysteric and purely degenerative insanity, etc., he very naturally concluded that the method might become of signal value in differentiating dementia praecox from these other types. In a footnote he adds that ferments of this order were later found also in isolated cases of patients who were at the time not (not yet?) suffering from dementia praecox; but that in these cases there was a demonstrable abnormality of function (dysfunction) on the part of the thyroid gland, and that clinically also these cases could readily be differentiated from the functional psychoses just mentioned.

Besides these findings in dementia praecox, Fauser also ascertained that ferments directed against brain cortex can be demonstrated in the majority of cases, while a reaction to thyroid tissue was only occasionally noted, though, at times, it was observed in the absence of any recognizable enlargement of the gland. In the purely functional psychoses other than dementia praecox, on the other hand, no antiorgan ferments of any kind could be demonstrated.

In contradistinction to these findings were those obtained in certain neuroses and psychoses associated with evident enlargement of the thyroid gland, in which the symptoms of the patient would in a general way have warranted the diagnosis of dementia praecox, and in which both cortex and thyroid were digested, but sex gland was not affected. In paresis also, ferments directed against cortex were almost invariably present, and occasionally ferments against liver and kidney, while those against sex gland could not be found.

Since Fauser's original reports, several other papers have appeared which deal with the same question and which in a general way confirm his findings, although the experience of some investigators has been less encouraging.

Wegener,[2] in a preliminary report covering 200 cases, and in a second communication in which the findings in 600 cases are detailed, confirmed Fauser's observations. In commenting on his hebephrenic cases he distinguishes between simple hebephrenia, hebephrenia associated with katatonia, and hebephrenia in which a definite mental deterioration had already occurred (dementia praecox). In the first group (121 cases) he observed cleavage of sex gland; in the second (12 cases), in addition to this, cleavage of thyroid, which never occurred in the first; and in the third (96 cases) cleavage of sex gland and cortex. Only negative results were obtained in simple "affect"

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1. Fauser, A.: Pathologisch-serologische Befunde bei Geisteskranken auf Grund der Abderhaldenschen Anschauungen und Methoden, Allg. Ztschr. f. Psychiat., 1913, lxx, 719; Deutsch. med. Wchnschr., Dec. 26, 1912, p. 2446; Feb. 13, 1913, p. 304; München. med. Wchnschr. March 18, 1913, p. 584.

2. Wegener, E.: Serodiagnostik nach Abderhalden in der Psychiatrie, München. med. Wchnschr., 1913, No. 22, p. 1197; Jan. 6, 1914, p. 15.

psychoses, simple hysteria and in chronic paranoia. In epilepsy (61 cases) a reaction with cortex was obtained immediately after the attack and in cases progressing to dementia also in the interval. In melancholia (25 cases) cleavage of liver was observed, and in some cases also of sex gland, but in the latter event the subsequent course of the malady showed that the melancholia had merely obscured the underlying psychosis, especially a hebephrenia. Cleavage of cortex was noted in chorea (6 cases), multiple sclerosis (8), arteriosclerosis cerebri and senile dementia (12), paresis, lues cerebri and tabes (67), brain and spinal tumors (15), meningitis (10), following narcosis and local anesthesia (8), alcoholic psychoses (8) and paralysis agitans (1). Summarizing his general impressions, Wegener refers to the evident importance of the reaction in the differential diagnosis between otherwise similar cases and to the unfavorable prognosis which those offer in which cortex cleavage can be demonstrated on repeated examination.

Kafka,[3] as the result of a study of 100 cases of mental diseases, concludes that ferments against sex gland are characteristic of dementia praecox, but adds that positive results may be exceptionally obtained also in paresis and during epileptic seizures. The sex-gland reaction, however, was not obtained in all cases of dementia praecox, and in full strength only in 13 out of 30, while 12 were entirely negative. The reaction with thyroid was positive in 20 of 38 cases, and it is interesting to note that the majority of the praecox cases in which the diagnosis was not self-evident on first examination, belonged to this order. A definite cortex reaction was found in 20 out of 32 cases, and one with adrenal tissue in 5 out of 22. Like Fauser, Kafka emphasizes both the diagnostic and the prognostic value of the method in the study of mental diseases.

Mayer[4] reports his findings in 47 cases of mental disease, and concludes from a study of 16 cases that in dementia praecox the serum always contains homologously directed ferments against sex gland, and that it usually also reacts with thyroid and cortex, while no ferments were found in the other functional psychoses. In paresis, on the other hand, he found a reaction with sex gland in 5 out of 8 cases, with cortex in all and with liver in 5.

Further confirmatory reports have been published by Fischer[5] of Stuttgart (24 cases), who found that in 12 dementia praecox cases a reaction occurred "fairly" constantly with cortex and sex gland, and in those which were complicated with thyroid hypertrophy, also with thyroid tissue. In his four cases of manic-depressive insanity, no tissue reactions were obtained, while a response to cortex was noted in all the paretics that were examined (15).

Römer and Bundschuh[6] of Illenau (36 cases) noted a reaction with cortex and testicle in 15 cases of dementia praecox, out of 20; with cortex and thyroid in one, with all three organs in 3 and with thyroid only in 1. Negative reactions were obtained in 6 normal persons and in 4 cases of manic-depressive insanity. In paresis (6 cases) a positive reaction with cortex exclusively was observed in 3, with cortex and thyroid in 1, with cortex and testicle in 1 and with testicle only in 1.

Theobald[7] reports a reaction with sex gland in 53 per cent., with cortex in 63 per cent., and with thyroid in 69 per cent. of the praecox cases. Fuchs and Freund[8] finally report a small series of cases (23) which were examined against sex gland and pancreas. Of the six manic-depressive cases some reacted with sex gland, while one gave a feeble reaction with pancreas. In this instance sugar had been found in the urine on two occasions. Of the 12 dementia praecox cases, 11 reacted with sex gland and all of them with pancreas, while a pancreatic reaction was noted in 5 paretic cases out of 7. Of the three male patients, one gave a full response to testicle, and of two female patients one reacted similarly to cow's ovary.[9]

Beyer[10] reports a positive reaction in six cases of dementia praecox (100 per cent.), and a negative reaction in two cases of manic-depressive insanity (100 per cent.) and one of paresis.

In contradistinction to the investigators above mentioned, Neue,[11] Allers,[12] Willige,[13] Hauptmann and Bumke,[14] and Brahm[15] have arrived at less encouraging results. Allers of Munich, however, seems to have confined his investigations to the behavior of the serum toward brain tissue. He concludes that even with a perfect technic positive reactions are at times obtained in circular insanity and the psychopathies.

Willige of Halle states that in paresis a reaction with brain tissue was observed in the majority of cases, but that in most of these the serum also reacted with thyroid and testicle. So far as the dementia praecox question is concerned, he merely mentions that in "isolated katatonic cases the reaction with brain tissue was negative." Two hypophyseal tumors gave a marked reaction with hypophysis; one also a feeble response to thyroid. One brain tumor reacted with thyroid, but not with brain.

Neue, working in Schröder's clinic (Greifswald), merely admits the more constant occurrence of positive reactions toward sex gland, cortex and thyroid in dementia praecox, as contrasted with degenerative cases, manic-depressive insanity and normal persons (positive reactions with testicle, pancreas and thyroid in seven out of nine young, healthy, male attendants). Of eight cases of paresis, cleavage of cortex was observed in all, but frequently also that of other organs (pancreas, liver and kidney). Seven cases of cerebral arteriosclerosis reacted with cortex and prostate and sometimes also with testicle.

The results of Hauptmann and Bumke (Freiburg) are altogether divergent from those of Fauser. The two former observers thus not only failed to demonstrate the homologous sex-gland specificity of the blood ferments which had been established by Fauser and confirmed by others, but also obtained sex-gland reactions in psychoses other than dementia praecox, in non-mental cases and in "normal" persons. Hauptmann adds, however, that he was able to convince him-

3. Kafka, V.: Ueber den Nachweis von Abwehrfermenten im Blutserum von Geisteskranken, etc., Ztschr. f. d. ges. Neurol. u. Psychiat., 1913, xviii, 341.
4. Mayer, W.: Die Bedeutung der Abderhaldenschen Serodiagnostik für die Psychiatrie, München. med. Wchnschr., Sept. 16, 1913, p. 2044.
5. Fischer, J.: Abstr. Ztschr. f. d. ges. Neurol. u. Psychiat., 1913, vii, 559.
6. Römer und Bundschuh: Abstr. Ztschr. f. d. ges. Neurol. u. Psychiat., 1913, vii, 564.
7. Theobald, M.: Berl. klin. Wchnschr., Nov. 24, 1913, p. 2180.
8. Fuchs, A., und Freund, A.: München. med. Wchnschr., Feb. 10, 1914, p. 397.
9. The testicle from lower animals gave the same results as the organ from man.
10. Beyer, B.: München. med. Wchnschr., Nov. 4, 1913, p. 2450.
11. Neue: Abstr., Ztschr. f. d. ges. Neurol. u. Psychiat., 1913, vii, 564.
12. Allers, cited by Oeller, H., and Stephan, R.: München. med. Wchnschr., Jan. 6, 1914, p. 13.
13. Willige: München. med. Wchnschr., 1914, p. 565.
14. Hauptmann and Bumke: München. med. Wchnschr., 1914, p. 566.
15. Brahm: Abstr. München. med. Wchnschr., July 29, 1913, p. 1689.

self in Fauser's laboratory of the validity of Fauser's claims and that specific reactions were there obtained even with tissues that had been prepared in Freiburg.

Brahm finally reports that cleavage of brain peptone was observed in all of his dementia praecox cases; that a corresponding reaction with silk peptone occurred in 50 per cent. of the cases; that serums from praecox cases frequently reacted with placenta; that in paresis the cleavage of brain antigen is feebler and that positive reactions also may be observed in psychopathic cases.

In surveying the literature just outlined, one cannot help being impressed, on the one hand, by the wonderful apparent uniformity of the results reported by Fauser, and on the other by the total lack of uniformity of those obtained by others, such as Hauptmann and Bumke. The thought naturally suggests itself that two factors may have been operative to this end, namely, that Fauser was carried away by his enthusiasm and allowed himself to be influenced unduly in the direction of his own wishes, and that Hauptmann and Bumke lacked complete control of the technic. As a matter of fact, there is good ground for the belief that both factors were operative. Fauser himself states that he obtained a reaction with sex gland repeatedly in cases in which this "was not expected or at least not certainly expected"; that in the cases in question, either the diagnosis between manic-depressive insanity and dementia praecox could not be made with certainty, or the diagnosis of manic-depressive insanity seemed to be the only diagnosis warrantable. He adds that in just such cases the serologic diagnosis proved superior to the clinical diagnosis, as evidenced by the subsequent course of the malady or the added information brought out by a more searching investigation into the patient's history. Fauser, in other words, admits that he tried to make his clinical diagnosis fit the serologic one in cases in which the two did not tally, rather than leave the question of the occurrence or non-occurrence of the reaction in the functional psychoses open for the present. This, of course, can be readily understood, if we realize the enthusiasm which his discoveries must have elicited in his own mind; but, on the other hand, it seems that the time interval which elapsed between the serologic examination and the change in diagnosis was scarcely long enough to warrant this change.

Another factor which may properly be advanced against the immediate acceptance of Fauser's published results is his absolute silence regarding questions of technic, and the fact that his results seem to have been as uniform before Abderhalden himself realized the necessity of increasing his demands on the character of the technic, as afterward. As a matter of fact, there is probably not one worker in this difficult field who, even after a long familiarity with the work, has not failures to record in abundance. To be sure, Fauser says in his final response in connection with the discussion relative to his address at the meeting of the German Psychiatric Association in Breslau, that with his earliest tests he obtained results which were truly tragicomic, and remarks that even Abderhalden in his pregnancy work had similar experiences. Granted all this; but even so, one can but wonder at Fauser's uniform results after he had passed beyond the stage of tragicomedy to which he refers.

On the other hand, there can be no doubt that certain workers like Hauptmann and Bumke reported their findings at a time when they certainly did not control the necessary technic. The writers virtually acknowledge this, but it is certainly much to be regretted that workers who fail in their first attempt to confirm the findings of another, should rush into print, apparently prompted by the sole desire to contradict the findings of probably equally honest workers.

Whatever the reason, the results obtained by different observers, though they support the claims of Fauser in the main, are still sufficiently divergent to warrant the report of another series of observations such as our own. The material for these examinations was obtained from the Sheppard and Enoch Pratt Hospital, and comprises 106 cases. The serums were tested against sex gland, Basedow thyroid and cortex. The results will be seen in the accompanying table.

TABLE OF RESULTS IN 106 CASES TESTED AGAINST SEX GLAND, BASEDOW THYROID AND CORTEX

	No. of Cases	Sex Gland	Per Cent.	Basedow Thyroid	Per Cent.	Cortex	Per Cent.
Dementia praecox	25	22‡	88	13	56	10	40
General paresis	11	0	0	4	36	5	45
Manic-depressive insanity	25	4	16	9*	36	6	24
Involutional depression	10	2	20	5	50	4	40
Constitutional psychopathic states	4	2	50	4	100	4	100
Defective mental development	3	0	0	0	0	2	66
Toxic (nephritis) cases	2	2	100	0	0	1	50
Intoxication psychosis (alcohol)	5	4	80	1	20	1	20
Traumatic psychosis	1	0	0	1	100	0	0
Organic dementia	3	0	0	0	0	2	66
Exhaustion psychosis	1	0	0	0	0	0	0
Drug intoxication (morphin)	1	0	0	0	0	0	0
Doubtful diagnosis	15	10†	66	2	11	4	26

* All of these patients were agitated, showing "Angst" symptoms.
† All of these patients showed constitutional psychopathic tendencies.
‡ In three patients classed as having dementia praecox and who did not react, the disease was of several years' duration.

To summarize, we can say that a sex-gland reaction may be obtained in nearly, if not all, cases of dementia praecox at some stage of the disease, but that the reaction is not specific of dementia praecox, as Fauser would have us believe. It may, of course, be debatable whether the relatively small percentage of cases in which the clinical history pointed to manic-depressive insanity, but in which a reaction was obtained nevertheless, were in reality manic-depressive cases, but the fact remains that in other types of insanity the reaction may also be obtained, even though we admit that it is observed far less constantly. Of special interest is our observation that in a large percentage of alcoholic cases a sex-gland reaction seems to be obtainable. It will be noted that no reaction was obtained in any one of the eleven cases of paresis. Our results thus seem quite in accord with those of Fauser, but just as he notes that at one time one of his associates obtained a positive reaction in an isolated case of paresis, so also did Dr. Judd in another series of mental cases note a positive reaction in a few instances. The significance of these divergent findings may of course be manifold.

In this connection I would recall the observations of Lampé and his co-workers, Papazolu and Fuchs, who report that in Basedow cases a sex-gland reaction may be frequently observed. It might, of course, be argued that as no clinical histories are given in full, some of these may have been dementia-praecox cases, but as the report has emanated from the first medical clinic of Munich, it hardly seems likely that all the positive cases were of that order. Such apparently

divergent findings, however, in no way diminish the basic importance of Fauser's original observations from the standpoint either of diagnosis or of general biology and experimental medicine. The fact remains that in dementia praecox a positive reaction is the rule, and that in the purely functional psychoses it is the exception. Its possible occurrence in paresis and alcoholic insanity scarcely diminishes the importance of the reaction from this point of view.

How to explain our positive findings in manic-depressive cases I do not know. It is possible that some of these cases were really praecox cases, but it is not likely that this explanation would be applicable to all our exceptions to the general rule of Fauser that in manic-depressive insanity only negative reactions are obtained. We must, hence, either conclude that Fauser's rule does have exceptions, or that our positive findings were due to some error of technic. Before admitting or denying this possibility, it may not be out of place to enter in some detail on the general question of technic.

TECHNIC

As I have previously indicated, Fauser does not discuss the question of technic at all, but merely states that he followed the rules of Abderhalden implicitly and that his results, before Abderhalden "reenforced" those originally laid down, were practically the same as afterward. These rules have reference essentially to the condition of the serum, to that of the parchment thimbles, and of the tissues which are used as antigens.

Concerning the first factor, he asserts that the serum must be free from hemoglobin or corpuscles and uncontaminated by bacteria. These demands were complied with in every particular. The blood was collected in large vacuum tubes similar to the smaller Keidel tube, which permit of thorough dry sterilization, and can be handled with equal facility. The blood was placed in the ice-box over night, the serum separated by centrifugation the next morning and recentrifuged twice more before being used. No serum was used that was tinged reddish in the slightest degree. The dialyzers which were available at first were those originally advocated by Abderhalden, namely, No. 579 Schleicher and Schüll. As a large percentage of these were found to be too pervious, the firm placed a tighter thimble on the market, bearing the number 579a. The first lot of a hundred of these were found so tight, however, that using only 0.5 c.c. of serum in each, no reactions could be obtained with sex gland unless the incubation was extended to from sixty to sixty-six hours. Subsequently, a lot of supposedly tested thimbles were secured from Schoep of Halle, but these also were found to be rather tight, necessitating incubation for sixty hours with 0.5 c.c. of serum. Quite a number of these, moreover, had to be discarded, as they were permeable to serum, in spite of their having been sent out as "tested."

All the thimbles were, of course, tested with serum alone, and those discarded which allowed reacting substances to pass through. If the dialysate gave no reaction with ninhydrin, they received a single notch in the margin, and were then tested against serum in combination with a tissue which was known to react readily, such as a very cellular carcinoma, which gave reactions with practically every serum whether derived from a normal person or a patient; while when placed in the dialyzer by itself, the dialysate gave no reaction whatever with ninhydrin. Or, the thimbles were tested with an "unimportant" organ in a series of experiments, and those selected which gave reactions in the dialysate. Either procedure gives the same results as when tested with peptone alone. After having been shown to be permeable for substances resulting from the interaction of serum and tissue, the thimbles received two additional notches and were then set aside in jars under toluene until needed for an actual experiment. Early in our work we sterilized our dialyzing jars with the dialyzer and the necessary amount of water, in the steam sterilizer, before using them, but abandoned this when it was found that the permeability of the thimbles was thereby lessened.

After being used the thimbles were carefully washed under the tap, placed in jars under running water for several hours and then stored under water and toluene until needed. The average life of a thimble under such conditions, being in use for from three to four days of every week, certainly extends over several months.

I have pointed out above that in most of our experiments we used but 0.5 c.c. of serum to each thimble. We may be criticized on this point, particularly as Abderhalden discountenanced the use of such small quantities in his pregnancy test. We found, however, that the use of such small quantities of serum is perfectly admissible if the period of incubation is lengthened, as we have done, and if the quantity of water on the outside of the dialyzer is reduced to 10 c.c., of which 5 c.c. are then used in the final test with 0.1 c.c. of the ninhydrin solution. The very fact that with this technic results could be obtained which in the main go to support the claims of Fauser, is the best argument in favor of its admissibility.

We were led to the use of these small quantities of serum in our attempt to obviate the appearance of nonspecific reactions with which every worker in this field is no doubt familiar, no matter whether he is willing to admit this in cold print or not. We have found it helpful, though by no means a certain guard against such reactions.

As regards the preparation of the tissues, I may say that every attempt was made to remove all traces of blood, and in many instances this was controlled by applying the phenolphthalin test for occult blood to the wash-water, and carrying the washing to the point of a negative reaction, even when the test was applied to the small amount of water that could be expressed from the tissues. The tissue, after being stripped of fat, connective tissue and macroscopically visible blood-vessels, was passed through a meat-hashing machine and then washed in running water for from twenty-four to forty-eight hours, after which it was coagulated by being placed in boiling water containing one drop of glacial acetic acid to the liter, as suggested by Abderhalden. The subsequent extraction with boiling water was then carried on in exact conformity with Abderhalden's method. As a matter of fact, the tissues to be used on a given day were boiled out at least half a dozen times on the day preceding, and then again as many times on the working-day, and to the point at which not the slightest reaction could be detected even on standing for half an hour in artificial light, which always accentuates the reactions. It will thus be noted that every precaution was taken to guard against sources of avoidable error, to which end the use of the small quantities of serum with the prolonged

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incubation certainly would tend to increase the number of negative instead of positive reactions.

The serums were always examined in sets of ten, without the slightest knowledge on our part of the clinical diagnosis, which was furnished only after our results had been announced.

With these precautions given I hardly think that our work is open to criticism from the standpoint of technic, so far at least as our present demands on the technic go, but neither am I ready to admit that a true sex-gland reaction may be obtained in the functional psychoses outside of dementia praecox. Before this question can be definitely answered, our technic must be radically improved. I feel very strongly that the underlying principle is correct, that we are dealing with a reaction which is in a certain sense specific even now with the imperfect technic at our command, but which is readily marred by apparently non-specific collateral or simultaneous reactions. Were this not true then one should obtain only definitely positive or definitely negative results; but as a matter of fact, in our experience at least, a correct "laboratory diagnosis" was frequently possible only when the ultimate results were compared with one another. If, for example, the dialysates were tested after an incubation of only twenty-four hours, using testicular tissue in combination with male serums, negative reactions only were observed, and our inference, had the examination ceased at this point, would have been that none of the serums had been taken from praecox patients. After an incubation of another twenty-four hours one or two specimens would show a reaction perhaps, but of so feeble a degree that one would hardly venture to attach any significance to the reaction. After twelve hours further not only the two specimens just noted would give a reaction, but perhaps six or seven out of the ten cases. The reaction, however, would then be of varying intensity, the most intense color being obtained with the two specimens which showed a faint reaction after forty-eight hours. A third one would perhaps be quite marked, though less so, while the remainder would give a faint color only. If at this stage we were to interpret the two intense reactions only as positive reactions, a comparison with the clinical condition of the patient would reveal that these had been the only praecox cases of the series. On waiting still longer we would at times find that the entire series was blue, and had our examination been made at this time only, we should have been led into the error of announcing that from a laboratory point of view all ten were praecox cases.

The readiness with which a whole series or a part of a series will become positive as incubation is continued, is variable and more marked with some tissues than with others. On the whole, the most satisfactory and unequivocal results were obtained with testicular tissue, cortex and occasionally with Basedow thyroid, while there was very apt to be an appalling blueness of the specimens when ovarian tissue was used, unless indeed the period of incubation was shortened by about twenty-four hours. Such variations Abderhalden would no doubt explain on the assumption that our tissues were not sufficiently free from blood, and this explanation seems to have been the accepted one in the case of many of the results that have been contrary to expectations, but although some of the abnormal findings may have been due to this cause, there must be still other factors which are operative in this direction.

This is strongly suggested by various incidental observations. Thus on one occasion we found that whereas practically all of twelve serums taken from divers mental cases gave positive reactions with ovarian tissue, but one of the same series reacted with blood-clot by itself. Had the latter parallel tests not been made the results with ovarian tissue would have been open to criticism on the supposititious basis that the tissues had not been washed free from blood, since errors due to faulty dialyzers or to imperfect extraction could be excluded. Such an assumption, however, is invalidated by the results which were obtained when the same serums were directly combined with blood clot. In this connection a number of observations which were made when animal tissue was substituted for human tissue acquire a certain significance as likewise suggesting the operation of extraneous factors.

Fuchs and Freund announced not long ago that they found beef testicle and beef ovary as efficacious as the corresponding human organs. We had already made the observation that rabbit testicle also may give apparently specific reactions, and in a series of ten cases could verify Fuchs and Freund's observations in reference to beef testicle, also, providing that the period of incubation was interrupted at a certain time. If this is exceeded, non-specific reactions appear, and, as in the case of the human organs, we found that these are more apt to occur early when ovarian tissue was used than in the case of testicular tissue. Such reactions can hardly be explained except on the assumption that aside from possible specific factors non-specific influences also are at work, and until these factors are known but little real headway in the application of this interesting field of investigation to clinical medicine will be possible. It would accordingly seem highly desirable if a number of the large army of workers in this field were to abandon the paths which have hitherto been pursued, and to devote their attention to a study of the fundamental physiologic principles which are involved. When once this basis has been furnished the day will not be far distant when "organ diagnosis" will become a possibility. It is my firm conviction that such a day is actually before us and hence that Abderhalden's basic work in this field should be viewed as one of the most important contributions to modern experimental medicine.

With our present knowledge it is of course impossible to draw any far-reaching conclusions concerning the significance of the sex-gland reaction in dementia praecox. Certain possibilities, however, suggest themselves which it may be well to discuss in brief.

When Abderhalden first discovered that during pregnancy a proteolytic ferment which is specifically directed against placental tissue, appears in the blood, he believed that this was the outcome of an invasion of the circulation by chorionic cells, which naturally would be alien to the blood. As a matter of fact it can easily be shown in the animal experiment that such ferments do appear when placental tissue is introduced into the organism by parenteral channels, and it is noteworthy that this will occur not only in female animals, but also in males. This, however, will also take place if instead of the tissue itself a corresponding extract (*Presssaft*) is used. So that we may conclude that the introduction of either cells or cell-products, so far as they are normally foreign to the blood, will

cause the appearance of corresponding ferments. As chorionic cells and hence chorionic cell-products, however, are not found in the normal organism except at certain periods which may be separated from one another by long intervals, whereas the sex glands and their cells are after all constant constituents of the animal body, it would seem *a priori* unlikely that in dementia praecox the appearance of the corresponding ferments should be referable to the action of either *normal* cells or *normal* cell constituents.

In this connection certain observations of Lampé and his co-workers are of interest. These investigators found that in Basedow's disease a more constant and more intense reaction is obtained with Basedow thyroid than with normal thyroid, and they accordingly conclude that in the disease in question we are not dealing with a hyperfunction, but with a perverted function of the gland. Otherwise it would be difficult to understand why the animal body should react with the appearance of a specific ferment to a mere increase of a normal secretion. We should indeed be forced to the conclusion that the reaction must be in response to the appearance in the circulation of the cells themselves; but we should also have to conclude that the chemical structure of these cells must be different from the normal, as otherwise the serum of patients with Basedow's disease should react just as well with normal thyroid as with Basedow thyroid. This possibility of course exists. But we might then ask ourselves if an abnormally constructed cell would not also be likely to furnish an abnormal secretion, in which case the reaction might after all be referable to certain constituents of this altered secretion rather than to the appearance in the circulation of the cells themselves. However this may be, it is evident that either an abnormally constructed cell or abnormally constituted cell-products may theoretically produce the same result.

In considering this question in connection with dementia praecox the thought of course suggests itself that here also we may be dealing with a perverted function of those cells which are concerned in the production of the internal secretion of the sex glands. Evidently, it would be advisable to study, on the one hand, the intensity of the ferment reaction against normal sex gland, and on the other, the reaction against sex gland derived from praecox cases. This has not as yet been done, but would seem to be the most important next step. Practically all the reactions which we obtained with testicular tissue were relatively slight, and it would accordingly go far toward establishing the existence of a perverted function of the cells furnishing an internal secretion, if it could be established that more marked reactions were obtainable with praecox than with normal organs.

That the interstitial cells of the testicles are concerned in the reaction we could demonstrate by combining the patient's serum, on the one hand with infantile tissue, and on the other with adult testicle, when reactions of equal intensity were obtained with the two antigens.

Supposing that the stimulus for the production of the ferments in question were to emanate from the sex glands, the next problem would be to ascertain the origin of the ferments. During his early studies of the pregnancy reaction Abderhalden believed that the ferment originated from the blood-cells, having the leukocytes more particularly in mind. Subsequently, however, he seems to have abandoned this view, and in a late publication he expresses the belief that the ferments might possibly be formed in the very organs against which their activity is directed. One reason which led to this change of view was the observation that whereas antitesticular ferments appear in the blood-serum of normal rabbits following the parenteral introduction of testicular cells, this does not occur in castrated animals. On the other hand, however, it must be remembered that the formation of antichorionic ferments may be evoked artificially both in male and female animals, so that we may conclude that whereas certain ferments may originate in the homologous organs, others may be produced by heterologous cells. This would be in perfect accord with what is known to occur in the production of tetanus antitoxin as a consequence of the introduction of the corresponding toxin.

Even though immunization with normal sex-gland tissue should evoke the liberation of corresponding ferments in the normal organ, it would not follow that other tissues might not become similarly active if an abnormal secretion were to enter the circulation.

Every cell of course contains proteolytic ferments which are capable of causing the digestion of homologous cells, when certain inhibitory factors fall away (for example, autolysis after death), and it would seem the simplest to assume that these ferments are given off by the cell when corresponding cells or cell-products are introduced into the circulation. But it remains to be seen whether the ferments then occurring in the blood are identical with the normal ferments of the normal cells and those occurring in the blood under manifestly pathologic conditions.

Considering the problem from the clinical side, the all-important question of course suggests itself whether or not the reaction has any relation to the pathogenesis of dementia praecox. Theoretically, this is of course perfectly possible. Granted that antisex-gland ferments do occur in the circulation in dementia praecox, and that their presence were the outcome of the appearance in the circulation of an abnormal secretion or of abnormal cells, then we may also assume that digestion of these cells or cell-products will take place, and that all conditions would thus be given for a chronic protein intoxication which might very well expend itself on the central nervous system. Should this be true, then we might also expect that the administration of sex gland to such patients would cause an aggravation of the patient's condition, while partial or entire castration, possibly combined with the transplantation of normal organs might similarly be expected to have a beneficial influence. Evidently, the problem is now open to investigation from many sides, and it does not seem unreasonable to expect that definite advances will be achieved in the near future.

In conclusion, I wish to express my appreciation of the courtesy and cooperation of the staff of the Sheppard and Enoch Pratt Hospital, which made the work outlined above possible.

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Public Hygiene Depends on the Individual.—Power to regulate water-supply and sewage-disposal or to vacate or destroy property unfit for habitation helps materially in improving the sanitation of the home, but it fails to reach that class of people whose personal habits render any home unfit for occupancy.—J. H. Landis, in *Am. Jour. Pub. Health.*

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RESULTS OF RADIUM IN CANCER

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The application of radium to the treatment of cancer cannot be considered new. It was first tried nine years ago; and since that time Wickham has been constantly engaged in its application to disease, and especially to cancer, in the very city which may be termed the home of radium.

The Laboratoire biologique du radium was organized in the early part of 1906. The object of this institute was to serve as a center for radium therapy. It possessed a chemical, a physiologic and a physical department, the last furnished with the most sensitive instruments of the Curies' laboratory. These departments, respectively, were under the charge of a competently trained chemist, physiologist and physicist. The therapeutic portion of the work was under the direction of Dr. Wickham. Since 1906, one thousand patients, afflicted with various forms of cancer, have been treated. The results of this treatment have been published in two books, one of which appeared in 1910 and the other in 1913. In the second publication, Dr. Wickham furnishes the following summary of his opinion regarding the action of radium on cancer:

1. Radium causes an undeniably destructive modification of the malignant cells.

2. Malignant tissues display a special and very selective susceptibility to the influence of radium.

3. This destructive action extends to a depth varying up to 9 cm., according to the dosage used and the sensitiveness of the neoplasm.

4. This action, even to the depth mentioned, occurs with the maintenance of the relative integrity of the normal tissues traversed.

5. The action, nevertheless, is not complete enough to warrant the use of radium as a primary therapeutic agent in any form of operable cancer, with the single exception of cancer of the skin.

Cancer of the skin, because of its superficial character and relative benignity, will always constitute a form of cancer belonging to an entirely different category from all other varieties. It forms the first of the groups into which Wickham divides the disease for the consideration of radium therapy. Regarding this group, he says:

> As far as our experience goes, in judging from our statistics, which contain several hundred cases of different varieties, we have arrived at the conclusion that in a majority of epitheliomata of the skin, even in the gravest cases, radium is undoubtedly superior to any other therapeutic agent, both on account of its direct curative action and because of the simplicity of its application.

In some particularly grave cases radium has been most effective in his hands. Even advanced, entirely inoperable forms, characterized by deep extension and in some instances by the presence of large tumors, have scarcely altered his statistics for the worse. In compiling these statistics, the element of time has been carefully considered.

Though it is only in this first group that radium deserves an important place in the fight against cancer, it is nevertheless by no means devoid of usefulness in other forms of the disease. An acquaintance with what has been accomplished in these other varieties is therefore important, for even though the results of radium treatment do not demonstrate its curability in the more advanced cancers, yet they furnish information concerning the extent to which it is able to produce the same selective destructive action on cancer tissue in general.

These other types of cancer, in which are grouped all the more serious and more important varieties, may be considered, from the point of view of radium therapy, under the two main divisions of operable and inoperable cancer.

Considering first the operable group (those cases capable of complete extirpation), Wickham makes the following significant statement:

> Operable cancer should be operated on immediately without delay. This is an absolutely fixed rule.

The inoperable forms are discussed under the different subdivisions of the histologic varieties of cancer and of cancer in the various locations within the body. In nearly all of the inoperable forms it is permissible to use radium, because of the relief from many of the objective and subjective symptoms which it not infrequently affords.

Wickham states that the various sorts of sarcoma yield to radiation more quickly than any of the many types of epithelial cancer. Lymphadenoma and mycosis fungoides are more susceptible than even sarcoma. He is able to report very important palliative results in the treatment of cancer from all regions of the body, and has witnessed an entire retrogression of many large inoperable epitheliomas of the skin and of some breast tumors. Types of the cases similar to those of Wickham have been described also by Dominici (who shares largely in the credit for the work of the institution), together with many photographs, in a monograph entitled, "The Technique and Results of Radium Therapy in Malignant Diseases."

Isolated instances do exist of apparent cures in some of the inoperable forms of cancer of the second group, and there is a fairly large proportion of cases in which the retrogression at the primary site of the tumor has prolonged the life of the patient and rendered him more comfortable. In no instance, however, has there been a complete eradication of the ultimate ramifications of the disease.

The only conclusion to be drawn from these results is that while the influence of radium on all types of cancer is a favorable one, it does not extend to the limits of the disease in any but the most superficial varieties.

The work of the Radium Institute of London, while much more recent, is second to none in importance. The institute possesses 4 gm. of radium — an amount far exceeding the quantity owned by any other single institution.

In the institute's report[1] of 467 cases of cancer treated during 1912, no patient has been classified as cured, inasmuch as it is not permissible to consider cancer in this light until there has been a freedom from recurrence for a period of at least three years. The most favorable results are reported as only apparent cures, though certain of them may later prove to be actual ones.

Of 101 patients with the slow-growing, benign forms of cancer of the skin, 31 were apparently cured,

1. Pinch, A. E. Hayward: Brit. Med. Jour., 1913.

41 improved, and 12 did not improve. In cancer of the rest of the body, including practically all varieties, there were only 15 cases apparently cured, 156 improved, and 45 did not improve. Of the 15 cases apparently cured, 4 were skin cancers occurring on the hand and cheek, 3 were cancers of the uterus, 2 were breast-cancers, 1 was a cancer of the thyroid gland, 1 was a cancer of the rectum, 1 was a tumor of the parotid gland, and 2 were sarcomas. Among all these cases the cancers of the uterus, breast and rectum are most significant. Cases 180, 5109 and 5199 have been selected as the cancers of the uterus which were apparently cured. In all three of these patients the cancer had returned after operation. Following radium treatment, there was, in each instance, an entire disappearance of the tumor mass and of all induration. It is supposed that Case 35 was the case of cured cancer of the rectum. It was an inoperable cancer, and after an interval of eight months from the time of its treatment with radium, no sign of the growth could be detected. The improvement in Cases 48 and 186 was so great that only the most conservative judgment could exclude them from the category of the apparently cured. Of the tumors of the breast, one was a case of Paget's disease, and therefore superficial. Case 5100 has been selected as the apparently cured case of cancer of the breast, in which the patient concerned had a recurrent cancer. At the beginning of the treatment she had six nodules the size of a walnut which had recurred in the scar. It is interesting to note that the recurrence in this patient had been unsuccessfully treated with the Roentgen ray before the application of radium.

The foregoing results fully confirm the conclusions of Wickham. With the lapse of time they may prove to be even more significant. At present they in no way alter his deductions and lend no support to the view that radium can be considered a cure for cancer. They convincingly demonstrate that its specific effect on the disease is not limited to any one of its forms.

In Vienna an important work with radium has been established. In June, 1912, the Vienna Radium Institute began its researches with half a gram of radium, an additional gram being furnished in June, 1913. The total amount, 1.5 gm., is very large, and quite sufficient to test the efficacy of radium on cancer. The institute has been founded as a central station for the distribution of radio-activity to the various departments of the Vienna Hospital. Riehl[2] has reported the results obtained by the use of radium on superficial cutaneous cancer, Wertheim,[3] on its application to cancer of the uterus and Ranzi, Schüller and Sparmann,[4] the results of the treatment of cancer of the various organs. Riehl has treated 114 patients afflicted with skin cancer, and his observations regarding its favorable influence on this form of the disease agree with the conclusions of others. He considers that in this form of cancer the application of radium, even in small quantities, is preferable to other methods of treatment. One of his patients may be referred to as an illustration: A tumor the size of a child's head had retrogressed, except for the deeper extension of the growth, which ultimately had reached the esophagus and caused the death of the patient. Wertheim states that he has treated nine cases of inoperable cancer of the uterus, in a number of which the previously fixed tumor again became movable; there was also a considerable reduction in the size of the growth, and altogether the patients improved to such an extent that it was possible to consider radical removal. Notwithstanding all this, it is impossible for him to view even such improvement as at all approaching a cure.

Ranzi, Schüller and Sparmann have treated 53 patients: 6 after operation, for the purpose of preventing recurrence, and 47 with inoperable tumors existing at the time that treatment with radium was instituted. Three of the 6 patients treated palliatively showed an extensive recurrence after a short time. The other 3 gave no evidence of recurrence after a period of three months in 2 of the patients, and two months in the case of the third.

The accompanying table shows the locations and varieties of all the cancers treated.

LOCATIONS AND VARIETIES OF CANCERS TREATED BY RANZI, SCHUELLER AND SPARMANN

	Patients
Sarcoma of the cranium	4
Cancer of the upper jaw	3
Cancer of the neck	6
Cancer of the breast	4
Cancer of the skin	4
Cancer of the penis	1
Melanosarcoma of the skin	1
Cancer of the esophagus	5
Cancer of the stomach	2
Cancer of the rectum	3
Cancer of the interior of the mouth	8
Cancer of the tongue	9
Cancer of the thyroid gland	1
Cancer of the pleura	1
Cancer of the nasopharyngeal cavity	1
	53

Notwithstanding the fact that a series of these cases received a high dosage of radio-activity, in only three instances of the whole fifty-three was there a continuous retrogression of the tumor. One of these three patients had a recurrent cancer of the tongue, about ½ to ¾ inch in diameter; another had a superficial epithelioma of the nose of the benign type, and in this case, while the growth on the nose was healing, a secondary extension of the disease on the upper jaw increased in size; the third patient in this group was a woman with a carcinoma of the tongue, which completely disappeared.

After deducting from the 53 patients 19 who either discontinued treatment or were lost sight of, there remained 34 from whom it was possible to draw conclusions. Of these, 6 died during the course of the treatment; 11 were essentially improved; 6 were very slightly improved, and 3 were made worse. Wertheim concludes with the statement that radium can be considered only a contributory agent in dealing with cancer. It produces solely a limited effect, and therefore its use in operable cancer is equivalent to the denial of principles in dealing with the malignant disease which are already too well founded to permit of question.

The Samaritan Hospital in Heidelberg has also made a report on the action of radium on cancer. This report deserves mention because of the foundation in this hospital of a work devoted exclusively to the cure of cancer, but the value of the work is much less than that of the three institutes already referred to because of the fact that only 20 mg. of radium

2. Riehl, G.: Wien. klin. Wchnschr., 1913, xxvi, 1645.
3. Wertheim: Wien. klin. Wchnschr., 1913, xxvi, 1648.
4. Ranzi, E.; Schüller, H., and Sparmann, R.: Wien. klin. Wchnschr., 1913, xxvi, 1651.

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were available. The report was published by Caan,[5] the details of 130 cases being given, of which 105 had carcinoma and 11 sarcoma. Fifty per cent. of all the cases treated showed the effects of a favorable influence attributable to cancer. Of 38 cancers of the breast a definite improvement was observed in 27 instances. In 8 of the 27 patients a complete retrogression of superficial tumors was noted (in one instance the size of a hen's egg); in 3 of this group of 27 patients the objective improvement was so marked that a previously inoperable growth became shrunken and movable to the extent of permitting consideration of a radical operation. In 5 out of 7 skin cases, healthy granulations replaced the tumor tissue. In 8 patients with malignant lymphomas, there was a complete disappearance of the tumor.

Caan further states, in summing up, that radium must be considered an important agent in the fight against malignant disease. In about 50 per cent. of his 130 cases he had produced improvement which may be described as a softening and retrogression of the tumor and an amelioration in the subjective symptoms of the patient. In two more recent publications,[6] Czerny and Caan publish their later experiences with the radio-active treatment of cancer. These publications concern more especially the use of mesothorium and thorium X — two very strong radio-active preparations considered by Caan quite as powerful as radium. It is therefore proper to consider them here. They furnished little additional information, however. Improvement was produced in about 40 or 50 per cent. of the cases, but no patient was cured. Caan concludes by stating that in cases of cancer susceptible to radical removal, treatment by mesothorium and thorium X should in no instance supersede the knife.

It is evident from a comparison of these various reports that the subject has been approached from different attitudes in France, England and Germany. It is quite easy to read between the lines of Wickham's book a great deal of enthusiasm for the treatment of cancer by radium; it is equally obvious that the Germans have expressed themselves most conservatively. The report of the English institute, on the other hand, draws no conclusions whatsoever, but simply consists of a statement of facts. Nevertheless, a comparison of these reports presented from these different attitudes, discloses a remarkable agreement which it would be easy to confirm by reference to numerous isolated publications on the use of radium from independent workers. Each report justifies the statement that radium produces a selective destructive action on the majority of cancers, but that this action never reaches to the more distant extensions of its deeper and more serious forms. Indeed, there is good ground for belief that unless the greatest care is used in the application of radium, the more distant portions of the tumor will be stimulated to more active growth. All observers of the action of radium on cancer have expressed the belief that an insufficient dosage of radio-activity may stimulate tumor growth. A moment's reflection will make clear how rapidly the total amount of radiation must diminish at points increasingly distant from the center of radiation. Aside from the amount of radiation absorbed, the number of rays diminish inversely as the square of the distance. All users of radium are most emphatic in expressing the belief that no operable cancers, except those of the skin, should be treated by radium in preference to operation.

It is therefore permissible to consider that the true position of radium in the treatment of cancer, with the present methods of application, is a settled matter. While it will destroy cancer tissue in a dosage not affecting normal tissues, it does not cure the disease unless it is quite superficial or of a variety peculiarly susceptible to its influence. The establishment of the fact that we have in radio-activity an agent which will at all specifically affect cancer, is of very great importance — all the more so, inasmuch as no other agent has thus far been discovered which in any degree approaches its effectiveness. A knowledge of these facts offers every encouragement to the belief that a more successful method of applying this remedy may yet be discovered; the lines of experimentation are clearly indicated; the whole question merely reduces itself to the even distribution of the proper dosage throughout all involved tissues. The realization of this end is all in the future and purely speculative. At present, radium may only supplement, but not replace, the knife.

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5. Caan: Beitr. z. klin. Chir., 1909, lxv, 773.
6. Czerny and Caan: München. med. Wchnschr., 1912, lix, 737. Caan: ibid., 1913, lx, 9.

THE AUTOSEROSALVARSAN TREATMENT OF SYPHILIS OF THE CENTRAL NERVOUS SYSTEM

SECOND PAPER

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Since the publication of my paper on "The Autoserosalvarsan Treatment of Syphilis of the Central Nervous System,"[1] thirteen additional cases have been treated. It is not the purpose of this communication to report these cases. During the clinical study of these twenty cases, however, many practical questions have arisen, a brief discussion of which appears to be timely. The points which I propose to discuss are along the lines of safety, efficiency and convenience. They are three in number:

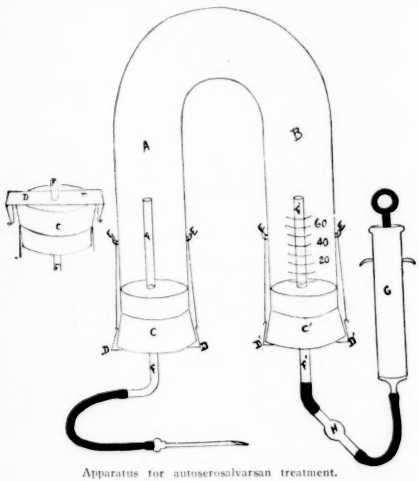
1. The problem of asepsis.
2. Time of withdrawal of blood for serum.
3. Dosage and dilution of salvarsanized serum.

1. THE PROBLEM OF ASEPSIS

In an early one of my last series of eleven cases an accidental infection of the spinal canal occurred. This patient has completely recovered from the infection, but the possibility of the recurrence of such an accident demanded such a critical review and revision of methods as would make it impossible. The opportunities and dangers of contamination in the preparation of a serum for intraspinal injection by an "open-air method" are manifest. Instruments, receptacles and appliances were above suspicion by reason of the effectiveness of modern hospital methods of sterilization. The skin of the patient at points of puncture,

1. McCaskey, G. W.: The Autoserosalvarsan Treatment of Syphilis of the Central Nervous System, THE JOURNAL A. M. A., Jan. 17, 1914, p. 187

and of the hands of operator and assistant, cannot, however, be completely sterilized by any known method. Then there is the possibility that any open receptacle containing blood or serum may have a particle of foreign matter accidentally deposited in it by a gust of air, or the sudden motion of a garment or other fabric during even a brief exposure. It could easily carry many micro-organisms which might be pathogenic, and which during the hours that the ideal culture-medium stands, might produce a massive dose. Even though placed in a refrigerator, a procedure which might easily be somewhat delayed, sufficient chilling to produce effective inhibition might be long enough postponed to permit considerable germination. This may be a remote possibility, but it should nevertheless be removed. The paucity of antibodies in the spinal fluid points to a danger from the introduction of even a few attenuated micro-organisms which might



Apparatus for autoserosalvarsan treatment.

be negligible in the blood with its ample protective resources. Without further preliminary discussion, the technic will now be described.

The apparatus consists of an inverted U-shaped glass tube, 1½ inches in diameter, each arm being about 5 inches long. One arm of this tube, *A*, is for the reception of the blood, the other, *B*, for the serum after its separation. The latter is graduated. The rubber stoppers *C*, *C'*, in each arm of the tube are held in place by metal plates, *D* and *D'*, passing across them, and fastened in their turn by fine copper wire to projecting glass hooks, *E*, on the sides of the tube. Through centrally placed perforations in the rubber stoppers and metal plates pass small pieces of glass tubing, *F*, and *F'*, which extend about 3 inches into each arm of the tube. To the small tube *F'*, projecting into the serum arm of the large tube, is connected a vacuum pump *G*, and to the other a needle suitable for puncturing a vein and collecting the blood. At *H* is interposed a small glass bulb containing cotton to filter the air which might be forced into the large tube if the vacuum pump failed to work properly. This outfit, connected as shown in the illustration (excepting that the vacuum pump is left out, because the steam ruins the washers) is properly wrapped and placed in a steam sterilizer and thoroughly sterilized.

When the operator is ready to proceed, the needle, which has been paraffined before sterilization and closed with a stylet, is introduced into a suitable vein, the *dry* skin over which has been painted with tincture of iodin. The vacuum pump is then operated by an assistant and the blood rapidly pours out of the top of the small tube *F* and falls to the bottom of the large tube. It is desirable to procure about 60 c.c. The vacuum pump is then disconnected from the cotton bulb, and air filters in to produce an equilibrium. If the needle is withdrawn from the vein first, *unfiltered* air would rush in, and might carry impurities. The needle is now removed, the bulb *H* transferred from *F'* to *F* and the connecting rubber tubes are covered with sterile gauze and rubber finger-cots, which are tied around the lower ends of the glass tubes.

The apparatus containing the blood is now placed in the refrigerator over night, and in the morning the quantity of separated serum desired is poured into the serum arm of the tube by simply tilting it toward that side. It is next placed in an oven and heated to 56 C. (132.8 F.) for thirty minutes, according to the Swift and Ellis technic. The serum is diluted with normal saline solution which has been placed in the graduated serum arm of the large tube before placing it in the sterilizer. The exact amount will depend on the dose and dilution of the serum which it is intended to give by the intraspinal injection. This must, of course, be determined in advance. For example, if it is desired to give 12 c.c. of serum in 40 per cent. dilution (as advised by Swift and Ellis), 18 c.c. would have been used.

The rubber tube (about 18 inches long and broken at two or three places by short pieces of glass tubing to be used as observation fenestrae), which is to convey the salvarsanized serum to the spinal puncture needle, is then connected to the glass tube *F'*, which is now pulled down until the upper end is flush with the inner surface of the rubber stopper. The serum is then allowed completely to fill this tube to its lower end, all air being, of course, excluded, when a suitable clamp, for instance, an artery forceps, is fastened over the rubber tubing *about one inch from its lower extremity*. This free end, which will remain filled with serum, is later to be fitted over the other end of the spinal needle from which *spinal fluid is emerging*. The clamping forceps are held by an assistant with sterile rubber gloves.

I then take the spinal puncture needle, with gloved hands, introduce it into the spinal canal, through skin previously painted with tincture of iodin, withdraw from 5 to 20 c.c. of spinal fluid, which is, of course, retained for laboratory study, and, while the spinal fluid is still flowing, connect the needle with the end of the rubber tube filled with salvarsanized serum.

The apparatus, held by another assistant, is then elevated. The serum usually flows in readily by gravity, but, if it does not, a pressure-bulb is connected with the small tube in the opposite arm and air pumped in through the air-filter, *H*, sufficient to produce any desired degree of pressure.

An aseptic gauze dressing over the puncture wound completes the procedure.

Repeated use of this apparatus has failed to show any defect from the points of view of asepsis, simplicity, cheapness,[2] or convenience. The rubber stoppers alone have to be frequently replaced to avoid leakage, which will occur as a result of repeated sterilizations by heat. With the use of aseptic gloves, the only possibility of serum contamination would be in puncturing the iodinized skin over vein or lumbar spine. If germs can be picked up by a needle in passing through iodinized skin, assuming this to be the best method, then a perfectly aseptic technic is, of course, unattainable. Such dangers are so remote that they can well be ignored in carrying out so effective a method of attack against a fatal disease, relatively immune against all other procedures.

II. TIME OF WITHDRAWAL OF BLOOD

According to the technic of Swift and Ellis, the blood is withdrawn one hour after the intravenous injection of neosalvarsan. If the purpose of the treatment is, either in whole or in part, the introduction of neosalvarsan into the spinal canal, such a delay appears objectionable, unless demanded by other considerations. Wechselmann[3] says that the Abelin reaction for salvarsan disappears in some cases in one hour. The amount of salvarsan in the blood undoubtedly diminishes rapidly from the moment of its injection. Of this fact, which could have been predicted confidently on purely biologic ground, I have fully satisfied myself by testing the blood at different intervals after the injection of the neosalvarsan.

In regard to the intraspinal dosage of neosalvarsan by the Swift and Ellis technic, what are the facts so far as these can be predicated? A full conventional intravenous dose of neosalvarsan contains 900 mg. The average human body is said by physiologists to contain about 3,000 c.c. of blood. A very simple calculation will show us that if this entire quantity of neosalvarsan is evenly distributed in the blood, each 12 c.c. of serum (the amount advised by Swift and Ellis) cannot contain more than $^1/_{250}$ of the entire dose, or 3.75 mg. Of course, in a very few minutes it will be much less, and continue to diminish until at the end of one hour it may not be detectable by the most delicate test.

In an effort to increase the intraspinal dose of neosalvarsan, I have gradually and cautiously shortened the time until now the usual routine is about twenty minutes after the completion of the intravenous injection. In order to secure more rapid uniform diffusion through the circulating blood, the neosalvarsan is injected very slowly, over a period of seven or eight minutes — the approximate time for the complete circulation of the blood. This insures a preliminary mechanical mixture or a general distribution throughout the blood mass, which would not occur if it were injected in one or two minutes. In fifteen or twenty minutes from the completion of the injection, I believe that uniform diffusion may be confidently assumed, and, as any one can easily satisfy himself by the Abelin test, the quantity of neosalvarsan in the blood at this time is several times greater than at the end of an hour.

There has not been, so far as I can determine, any more pain following the intraspinal injection of serum obtained in twenty minutes than with that obtained one hour after the intravenous injection of neosalvarsan. As a general rule, there is no pain of consequence following the intraspinal injection. Occasionally, immediately or even after from six to ten hours moderately severe pain may rather suddenly develop in back and limbs, lasting several hours. There has been no increase in the incidence or severity of this pain since shortening the interval between the intravenous injection and the bleeding.

Much of its therapeutic efficacy, however, may be attributed to the serum *per se* independently of its salvarsan content; the latter is after all the known specific spirocheticide, and I cannot avoid the conclusion that an intraspinal dose of serum containing perhaps between 2 and 3 mg. of neosalvarsan offers more therapeutic promise than one from which it has so completely disappeared as to be no longer demonstrable. I have, therefore, adopted, and advise a twenty-minute interval as above outlined.

III. DOSAGE AND DILUTION OF THE SALVARSANIZED SERUM

With a view of increasing, if possible, the intraspinal dosage and, therefore, the therapeutic efficiency of the salvarsanized serum, I have, again very cautiously, lowered the dilution until in a few cases undiluted serum was used. We found in the laboratory that the undiluted serum, which has a specific gravity of about 1.035, would rapidly settle to the bottom of a test-tube containing spinal fluid, which has a specific gravity of about 1.012. The rate of fall was almost exactly 1 cm. per second. Moreover, it tends to remain at the bottom of the tube a long time, diffusing through the spinal fluid very slowly. This might be imitated to some extent in the lower segment of the dural pouch, and might obviously be objectionable. In from 60 to 80 per cent. dilution, however, diffusion readily occurs. I do not, therefore, use and would not advise lower dilution.

I usually begin with about 15 c.c. of serum made into 50 per cent. dilution. If thought necessary in subsequent treatments, the quantity of serum is increased by varying the dilution without increasing the bulk of the injection. In some cases the original dose is not modified. In obstinate cases this can be done without any untoward effect so far as I can determine in the way of pain or other reaction and, obviously, offers a means of intensifying the therapeutic effect without increasing the bulk of the injection. Just to what extent this is desirable or justifiable is a question of clinical judgment in the individual case.

While it is not my intention, as stated above, to make a further detailed clinical report just at this time, a few words of comment may perhaps be added.

The necessity for and rationale of the treatment, as well as therapeutic results entirely unattainable by other known methods, are receiving additional confirmation with the passing months. One of the most interesting side-lights is contained in a recent contribution by Flexner and Amoss.[4] The experiments there cited, which consist of the intravenous injection of poliomyelitic cerebrospinal fluid, "afford valuable support," to quote the language of the authors, "to the hypothesis that infection of the nervous organs in

2. This entire outfit costs about $5. The vacuum pump is a staple in the market at $2. The U tubes can be made by any glass-blower for $2 or $3.

3. Wechselmann: Salvarsan Fatalities.

4. Flexner, Simon, and Amoss, Harold L.: Penetration of the Virus of Poliomyelitis from the Blood into the Cerebrospinal Fluid, Jour. Exper. Med., April 1, 1914, p. 411.

man occurs through the mediation of the cerebrospinal fluid." To accomplish this transfer (that is, from blood to cerebrospinal fluid), time is required, *since the barrier of the choroid plexus must first be overcome.* At the expiration of forty-eight hours following the intravenous inoculation, the barrier appears still to be intact; at the expiration of seventy-two hours the passage of the virus seems to have begun, since infection of mild type followed the inoculation of the cerebrospinal fluid removed at this period. At the expiration of ninety-six hours, it appears that the barrier had broken down; and it also appears that under the pathologic conditions created, the virus, in quantity sufficient to cause infection, still persisted in this fluid as late as the nineteenth day, although no longer detectable in the blood by the inoculation test. I have several times found clinically what may, I think, be regarded as an analogous condition in *untreated* syphilis. The infection as determined by the Wassermann test had disappeared from the blood, but was still present in the spinal fluid. Such a condition is, of course, common in cases treated through the bloodstream alone.

The modification of the spinal fluid Wassermann test during the progress of these treatments is extremely interesting and variable. It does not always proceed *pari passu* with clinical improvement. For instance, in one of my cases[5] under the care of Dr. Walter Domer of Wabash, Ind., the patient suffering from advanced tabes with great emaciation, complete urinary incontinence, both day and night, insanity of a very marked type requiring constant supervision and frequent restraint, etc., has gained 43 pounds in weight, *has regained control of the bladder during the day,* though he still has nocturnal incontinence, and has so completely recovered his normal mentality that he has resumed his usual occupation. The cerebrospinal fluid Wassermann, however, still remains positive, after eight intraspinal treatments.

In another case of advanced tabes with rapidly progressing disability, the spinal fluid Wassermann was practically negative after two treatments, although no clinical improvement could be noted. Sufficient time perhaps had not elapsed. On the other hand, degenerative changes in the nerve elements may proceed for a time even though the infection has been overcome; and in any event the restitution of these degenerated elements must for the present be considered entirely problematical. A great deal more time must elapse before we shall "get our bearings."

If the evidence thus far at hand, still further strengthened by these experiments, supports the assumption that "infection of the nervous organs in man occurs through the mediation of the cerebrospinal fluid," then obviously the most rational mode of attack, if practical, is through this same "mediation." It is equally obvious that the "lumbar route" offers at once the only safe and available method. That it is practical and therapeutically potential has been shown by the work of the Rockefeller Institute and the clinicians who have been guided by their researches.

The direct injection of a 6 per cent. solution of neosalvarsan into the spinal canal, which is practiced by Dr. Ravaut at Paris and to which attention has been recently called by Wile,[6] does not appear to me to offer the same advantages as the Swift and Ellis technic. The latter observers have warned us of the actual danger in the use of these injections, their warning being based on experimental work with monkeys. This warning should not pass unheeded. Aside from this, however, the practical simultaneous use of the intravenous and intraspinal injections offers a combined attack on the blood and lymphatic side of the infection at every point. Then again the serum introduced into the spinal fluid may readily be assumed to contain important antibodies which may play a large rôle in the therapeutic result. This is especially plausible, because it is quite in line with the well-known facts in regard to the relative amount of antibodies in these two fluids. If it can be demonstrated that the Ravaut method is safe, it might be used to supplement the Swift and Ellis method and avoid too frequent and too intensive intravenous dosage with neosalvarsan.

I wish to express my indebtedness to my clinical assistant, Dr. Miles F. Porter, Jr., for his aid in this work.

5. Case 4 in my previous paper (Footnote 1).

6. Wile, Udo J.: The Technic of the Intradural Injections of Neosalvarsan in Syphilis of the Nervous System, THE JOURNAL A. M. A., April 11, 1914, p. 1165.

CHRONIC DEMENTIA, CEREBELLAR ATAXIA, AND EPILEPTIFORM CONVULSIONS IN A BOY CAUSED BY PTOMAIN POISONING FROM EATING CANNED SALMON *

CHARLES W. BURR, M.D.
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PHILADELPHIA

We know little about the direct immediate cause of dementia save in cases associated with visible disease of the cerebral arteries, paresis and senile dementia. Dementia in children has been largely neglected. Persons who are born defective or who become so in childhood we are too prone to classify as idiots or imbeciles and then, so far as study goes, forget. Many of the latter are really suffering from a dementia resulting from an acute acquired insanity. In every asylum for the feeble-minded there are a large number of patients the cause of whose mental illness is unknown, and who, in accordance with the severity of the mental defect, are classed as idiots or imbeciles; those bereft of reason being called idiots, those having some mental power, imbeciles of higher or lower grade. It would be better, as has been suggested by European writers, to use the word "idiot" to include those persons who are suffering from the results of intra-uterine physical disease or accident at birth or illness soon after, without regard to the amount of mental defect resulting, instead of following the present classification, which is purely arbitrary and based on the amount of mental defect no matter what the cause. Under such a classification, the word "imbecile" would mean any person who, on account of inherent weakness, and not from physical disease or trauma early in life, for instance, scarlet fever or a serious concussion of the brain, ceases at any time to develop mentally and then retrograde. Such children

* Read at the meeting of the Philadelphia Psychiatric Society, May 8, 1914.

differ qualitatively as well as quantitatively from idiots. Of course, there must be some underlying physical defect in them, but it is part of their inherent nature and not the result of accident or acquired disease. The cause probably is often outside the brain itself. Hypothetically, the condition may be explained by abiotrophy, a term introduced by Gowers to explain certain muscular dystrophies in which he assumes an inherent weakness of the muscle-cells which causes them to degenerate under the ordinary stress and strain of life without the increased strain of illness, trauma, or severe emotion. It is possible that this inherent, congenital weakness may occur in the brain-cells in certain persons and result in imbecility. It is a matter of indifference whether the abiotrophy is so great as to prevent any mental development or only sufficient to cause a breakdown later. Another possible explanation is a disorder of one or another of the ductless glands, or a disturbance of the balance between them. Our knowledge of the function of these glands is, however, so fragmentary that it is dangerous to attempt to draw any general conclusions. That disease of one of them may lead to very serious mental trouble is shown in cretinism, which, as is well known, is due to disease of the thyroid. The curious mental state, not very infrequent in Graves' disease, may also be due to thyroid disorder. The hebetude, or at least, if that be too strong a term, the extreme mental slowness, present in almost every case of acromegaly may be either directly caused by disturbance in the function of the pituitary gland or due to the mere mechanical effect of pressure of a tumor of the brain. Our knowledge of the functions and diseases of the ductless glands is still very hazy, but it may, in the future, be proved that the disorder in their functions accounts for some of those people who break mentally in childhood without external cause and without visible cerebral lesion. A very striking difference between idiocy and imbecility, as here defined, is the fact — and I am convinced that it is a fact — that heredity plays relatively little part in the former (idiocy), and a very large part in the latter (imbecility). I have seen many idiots in whose family history I could discover no mental taint. Thus all three children in one family were idiots, not from heredity, but from injury at birth, due to pelvic deformity in the mother. Congenital syphilis, which is not hereditary in the proper sense of the word, also causes idiocy. Almost every imbecile, on the contrary, whose ancestral history I know, came from a family showing a vicious mental strain, either insanity itself, hysteria, epilepsy, extreme eccentricity, or alcoholism, which is itself more often a sign than a cause of illness. By "strain" I do not mean the sporadic occurrence of any of the above-named states in a family, but the repeated appearance of one or several in a family generation after generation.

Whatever may be the cause of imbecility, there is still another class of patients, though in the asylums all these are frequently classed together in one group, because the final picture is the same. They are the juvenile dements: people who in childhood present no abnormalities, either mental or physical, and who may have a fairly good ancestral history, but who, after some acute disease, or even in its absence, become demented. The dementia may follow any of the acute infectious fevers — scarlet fever, pneumonia, influenza — just as it may follow infection in adults, or may come on idiopathically. I am inclined to believe that the number of juvenile dements is very large and that true imbecility is less frequent, but it is almost impossible to get correct histories from families who, several years after the illness has begun, send their children to institutions, and for this reason statistics are very faulty.

I shall relate in this paper the history of a boy patient whose dementia is due to a very rare cause, namely, food poisoning. Medical literature is full of detailed accounts of the acute mental symptoms of ptomain poisoning, but I have found no description of chronic cases.

Family History.—There was nothing very striking in the patient's family history except that his father was one of those men who are continuously and uninterruptedly unsuccessful. He was industrious and honest, religious in a sane way, very temperate, but he could never find his niche in the world. Wanting to be thrifty, he was always thriftless and the responsibility of caring for the family rested largely on his wife—a state of affairs which, to reactionaries and conservatives, points toward mental insufficiency on the man's part. This, however, was the only black spot in his character, and to moderns and the disciples of feminism it would look only a very light pearl gray, pretty rather than hideous.

Present Illness.—The boy himself was an ordinary boy, neither good nor bad, neither brilliant nor dull. He was one of five children and had never had any serious illness until he was 14 years old, when the present illness began. Oct. 24, 1909, while at boarding school, he, along with twenty other boys, ate canned salmon. All, in a few hours, became very ill with symptoms of fish poisoning and, several (I think three but I am not sure of the exact number) died. My patient survived but was bed-ridden for some time. Indeed, he had a fever continuing several months. During this time he had a transient hemiplegia, several general convulsions and bed-sores. At times he was delirious. One of the most striking incidents was that, beginning about eighteen months after the onset of his illness, his usually dull and stupid state was occasionally replaced suddenly by an acute delirium lasting from two days to two weeks. He never had any recollection of these delirious attacks. He also continued to have occasional convulsions about once a month though sometimes the interval between was longer. Frequently an attack of delirium followed, but according to the history either might occur independently of the other.

Examination.—My own first examination was made on April 3, 1911, a few days after the beginning of one of the attacks of delirium. I found the patient in bed, ill nourished and with a skin of the dirty yellow-white of half-dried flour-paste. He rambled continuously in his talk, his mind dwelling on love and religion. At times he was profane and obscene. He answered two or three questions as to his name and dwelling-place but beyond that paid no attention to what was said to him. He had no realization of his condition, nor whereabouts. He was foolishly happy, not violent but restless, tried to get out of bed but merely putting a hand on his shoulder caused him, for the time, to cease his efforts. There was no palsy in any part but his gait was very ataxic —a true cerebellar ataxia. In bed he moved his legs well. His knee-jerks were normal. There were two large scars of old bed-sores on the sacrum. He paid no attention to his bladder or rectum. He drank his milk (he was on a milk diet) voraciously but never asked for food. The transient hemiplegia mentioned in the history had passed away entirely and left no marks of its presence.

Course.—He continued in the hospital till June 27, 1911, when I sent him to a suburban rest-house. While in the hospital he had a number of fleeting visual and auditory hallucinations. For the most part they were really illusions—the false interpretation of things seen or sounds heard. Some, however, seemed to be true hallucinations—to have their origin within himself and not externally. He improved quite a little

by June and presented the picture of a dementia plus cerebellar ataxia. His gait was made somewhat curious by the fact that, having been a student in a military academy in the South, he seemed to have exaggerated the stiffness of the military attitude so that his gait was a mixture of strut and ataxia. On turning he tended to fall but always recovered himself. He stood with the feet wide apart. His station was not bad and was not made more unstable by closing the eyes. There was a little ataxia in the hands. The knee-jerks were very much increased. There was good control of the bladder and rectum. Articulation was good. The patient had no recollection of having seen me before though I had visited him a dozen times, the last visit having been three weeks before. He had no delusions or hallucinations. He understood simple conversation and answered intelligently, but his mental development, that is, his power of reasoning, so far as we can measure abnormal states with the yardstick of normality, was about that of a 9-year-old boy. He was contented, happy and well-mannered.

On July 6, 1911, the patient walked a little better but was still very ataxic. It was very difficult for him to turn without falling. The knee-jerks were normal. There was no ataxia in the hands. He understood what was said to him and answered questions responsively. His memory for recent events was very poor. He could tell accurately about events of his childhood but he had no recollection of having been seriously ill. He remembered vaguely that while at school he had had some sort of an illness but remembered nothing of its nature; indeed, I am not sure whether he really remembered being ill or only remembered being told that he had been so. He had no recollection of having been brought to Philadelphia from a Southern city, some months before, and did not remember anything about being in the hospital or about being sent to the country. He thought he had seen me somewhere but was not sure. He was happy, good-natured and easy to control but rather silly. He cared neither to read nor to be read to. He ate and slept well.

By Aug. 24, 1911, the patient's speech had become slow and drawling. His memory was a little better. When he went to the country he had forgotten how to use a knife, fork and spoon, and frequently even tried to eat soup with a fork. Meal after meal he had to relearn experimentally how to use table-ware. It took him several weeks to learn where his bedroom was and how to go to it from down stairs. These symptoms had passed off by now.

By Sept. 27, 1911, he began to have attacks of headache, at times so severe as to send him to bed. He also was occasionally nauseated but never vomited. His knee-jerks were again increased. He never complained of vertigo.

Oct. 15, 1911, his memory for the geography of the house again became very bad. He knew it was a house, that he was living there, that there were people there to care for him. He recognized the people and remembered their names, but he could not remember how to go from any room on one floor to any room on another. He recognized his own bedroom when within it but when in the hall could not recall which of several doors opened into it. This loss of geographic sense was not confined to the inside of the house. He was lost as soon as he was out of sight of it. This cannot be explained by a dement's mere inability to fix attention and a consequent absence of memory, because by now he remembered people seen and things told him fairly well and, therefore must have had some real power of fixing his attention. He could remember a short story for children.

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Immediately before the patient returned to his home, in the early summer of 1912, his condition was the following: Marked cerebellar gait. Knee-jerks marked. No ataxia in arms. No palsy in arms or legs. Speech slow and drawling. Memory for passing events much improved but still poor. Power of attention poor. Read a little. Wrote short and childish but coherent letters. Liked to play with children. Polite in manner. Disposition good. Geographic sense recovered. He continued rarely to have severe general convulsions and quite often minor attacks, but his attacks of long lasting unconsciousness ceased to occur several months before leaving Philadelphia.

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The case has many points of interest. First, as to the naming of the mental condition. Should we call the boy an imbecile or a dement? In view of his history, he is of course a dement, but if he were to be seen now by one who knew nothing of his past I think he would be classed as a rather high-grade imbecile with some intercurrent organic nervous disease. There is no way to tell, from a mere examination of a boy free from physical defect, whether he is one or the other. Yet for scientific purposes it is important to keep apart children who break from inherent weakness and those who require a serious stress to overthrow their mentality.

I have been unable to find any case with a similar cause in the literature. I do not say others have not been reported, because my experience has been that as soon as one claims uniqueness in a patient in print, similar cases, previously hidden in obscure journals or forgotten proceedings of societies, come to light. It must, however, be extremely rare, as its possibility is not even mentioned in the text-books. A rather large number of cases of acute delirium from food poisoning are recorded, but the patients either died or soon recovered. That salmon poisoning was the cause in this case there is no doubt. The history proves it. The only possibility of error would be the simultaneous occurrence of two illnesses, the poisoning plus, say, cerebral syphilis. The latter, however, can positively be excluded.

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delusion of grandeur, the ataxia, the (for a time) increased knee-jerks, the epileptiform convulsions, all make the picture of paresis. The factors in the case against its being paresis are the absence of congenital syphilis (every case of juvenile paresis I have ever read of or seen occurred in youths with a history of parental syphilis), the very rapid onset, and the seemingly permanent improvement coming on slowly and extending over a length of time greater than that of a remission in paresis. This partial cure I emphasize because I cannot conceive, in the present state of therapeutics, of even a partial permanent cure of true paresis. I do not think that the absence of syphilis is of so much importance, because I can well believe that some other intoxication might affect the brain precisely as syphilis does. The case in no way looks like dementia praecox unless that much-abused term is to include all kinds of insanity that attack the young.

The patient's isolated loss of memory for places was most unusual. At a time when his memory for faces was fairly good and when he could remember things told him quite well, he could not learn the geography of the house and surrounding fields. Of course, it requires more fixity of attention to learn a house than it does to listen and fix in memory a thing said, but it seems to me that lack of attention does not explain the condition. The patient seemed to have a local memory loss comparable to amnesia for words.

That there is a real organic lesion present I think is sure. I fancy the patient has a pretty wide-spread cortical lesion affecting most markedly the intellectual centers and the cerebellum and probably primarily attacking the nerve cells rather than the arteries. The long continuance of the illness, together with the character of the symptoms, is against a merely functional disorder and the optic atrophy is positive evidence of organic disease. I think we may assume that the optic atrophy is a visible sign of similar changes in the brain itself.

1918 Spruce Street.

PREGNANCY AND LABOR COMPLICATED BY CARCINOMA OF THE CERVIX UTERI

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Cancer complicating pregnancy and labor is of such rarity and the calamity of such a complication is so grave that it excites the deepest interest and attention.

De Lee and Hirst, each quoting the statistics of Sarwey and Kerr cite twenty-six cases occurring in fifty-seven thousand pregnancies, or approximately once in every two thousand pregnancies. This ratio is accepted by Edgar, Williams, Ashton and others. De Lee also cites a series of fifteen thousand consecutive maternity cases occurring in the Chicago Lying-In Hospital with only one case of cancer of the uterus arising as a complication. Since these patients were of the usual social standing of the average private practice he thinks this is a fair estimation for such an occurrence in private practice. It is evident by referring to the statements of such standard authors that the condition is more often seen in the cases in the charity wards than in private practice. It is noteworthy that in America this condition is more frequently found among the immigrant strata and among negroes than among American-born white persons. The relatively small number of such cases is evident when men of large experience in the city hospitals have never seen a case.

On account of the environment but little information can be obtained regarding the course of pregnancy, especially during the early months. It is evident, however, that the advent of pregnancy greatly favors the inroads of cancer, when they coexist; during gestation and the puerperium the progress of cancer is astonishingly rapid, especially in the latter period. Because of the influence of pregnancy an enormous increase in the blood-supply of the uterus occurs, inviting rapid infiltration and metastasis, while during the puerperium rapid necrosis takes place.

It is impossible to accurately estimate the death-rate in this condition, but it is believed to be nearly 100 per cent.; a cure being a most unusual triumph. Edgar, in discussing this subject, says that in 15 per cent. of such cases miscarriage occurs before the period of viability, and that in 33 per cent. of the remainder the children die during labor or shortly afterward.

The course of labor in the cases complicated with carcinoma of the cervix is attended with grave danger. If left to the natural course, death from hemorrhage of the friable but resisting lower uterine segment is very probable. The anemia, as well as the uterine infiltration, greatly predisposes the patient to general and local inertia; ultimately death ensues from shock, hemorrhage and sepsis. The course of labor is prolonged, often continuing several days; it is ineffectual in its mechanism, owing to the undilatable cervix and inefficient pains; it often terminates in the rupture of the uterus or maternal death from shock while still undelivered.

When there is a bare possibility of effecting a cure of the cancerous condition complete hysterectomy should be done as early as possible. The interests of the mother are to be considered whenever there is a reasonable hope that a cure may be effected and the Wertheim operation performed, regardless of the stage of gestation. Should the case be hopeless, so far as the interests of the mother are concerned, the welfare of the child is to be made paramount and an attempt made to reach the latest period in the course of pregnancy. This position is the consensus of opinion of both operators and authors.

At the end of the gestation period abdominal cesarean section with complete hysterectomy is the most popular treatment when it is hoped that both mother and child may be saved. In the cases in which the mother is beyond help abdominal cesarean section followed by complete hysterectomy when possible, or extraperitoneal treatment of the cervical stump after the amputation of the uterine body seems to be the most popular view at present. Ashton advises the amputation of the uterine body above the cervix in such cases and closes as in supravaginal hysterectomy for the purpose of closing off the cancerous mass. Duhrrsen recommends vaginal cesarean section, saying that it can be done as late as full term, delivery being followed by complete hysterectomy by the vaginal route.

It would seem that the control of hemorrhage, sepsis and shock would be more perfect by abdominal

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I have been unable to find any case with a similar cause in the literature. I do not say others have not been reported, because my experience has been that as soon as one claims uniqueness in a patient in print, similar cases, previously hidden in obscure journals or forgotten proceedings of societies, come to light. It must, however, be extremely rare, as its possibility is not even mentioned in the text-books. A rather large number of cases of acute delirium from food poisoning are recorded, but the patients either died or soon recovered. That salmon poisoning was the cause in this case there is no doubt. The history proves it. The only possibility of error would be the simultaneous occurrence of two illnesses, the poisoning plus, say, cerebral syphilis. The latter, however, can positively be excluded.

The combination with dementia of physical symptoms referable to the cerebrospinal axis and surely due to gross organic disease is, in persons so young, very rare. In many ways the case clinically resembles juvenile paresis. The dementia, the drawling speech, the silly happiness, without, however, any distinct

delusion of grandeur, the ataxia, the (for a time) increased knee-jerks, the epileptiform convulsions, all make the picture of paresis. The factors in the case against its being paresis are the absence of congenital syphilis (every case of juvenile paresis I have ever read of or seen occurred in youths with a history of parental syphilis), the very rapid onset, and the seemingly permanent improvement coming on slowly and extending over a length of time greater than that of a remission in paresis. This partial cure I emphasize because I cannot conceive, in the present state of therapeutics, of even a partial permanent cure of true paresis. I do not think that the absence of syphilis is of so much importance, because I can well believe that some other intoxication might affect the brain precisely as syphilis does. The case in no way looks like dementia praecox unless that much-abused term is to include all kinds of insanity that attack the young.

The patient's isolated loss of memory for places was most unusual. At a time when his memory for faces was fairly good and when he could remember things told him quite well, he could not learn the geography of the house and surrounding fields. Of course, it requires more fixity of attention to learn a house than it does to listen and fix in memory a thing said, but it seems to me that lack of attention does not explain the condition. The patient seemed to have a local memory loss comparable to amnesia for words.

That there is a real organic lesion present I think is sure. I fancy the patient has a pretty wide-spread cortical lesion affecting most markedly the intellectual centers and the cerebellum and probably primarily attacking the nerve cells rather than the arteries. The long continuance of the illness, together with the character of the symptoms, is against a merely functional disorder and the optic atrophy is positive evidence of organic disease. I think we may assume that the optic atrophy is a visible sign of similar changes in the brain itself.

1918 Spruce Street.

PREGNANCY AND LABOR COMPLICATED BY CARCINOMA OF THE CERVIX UTERI

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Cancer complicating pregnancy and labor is of such rarity and the calamity of such a complication is so grave that it excites the deepest interest and attention.

De Lee and Hirst, each quoting the statistics of Sarwey and Kerr cite twenty-six cases occurring in fifty-seven thousand pregnancies, or approximately once in every two thousand pregnancies. This ratio is accepted by Edgar, Williams, Ashton and others. De Lee also cites a series of fifteen thousand consecutive maternity cases occurring in the Chicago Lying-In Hospital with only one case of cancer of the uterus arising as a complication. Since these patients were of the usual social standing of the average private practice he thinks this is a fair estimation for such an occurrence in private practice. It is evident by referring to the statements of such standard authors that the condition is more often seen in the cases in the charity wards than in private practice. It is noteworthy that in America this condition is more frequently found among the immigrant strata and among negroes than among American-born white persons. The relatively small number of such cases is evident when men of large experience in the city hospitals have never seen a case.

On account of the environment but little information can be obtained regarding the course of pregnancy, especially during the early months. It is evident, however, that the advent of pregnancy greatly favors the inroads of cancer, when they coexist; during gestation and the puerperium the progress of cancer is astonishingly rapid, especially in the latter period. Because of the influence of pregnancy an enormous increase in the blood-supply of the uterus occurs, inviting rapid infiltration and metastasis, while during the puerperium rapid necrosis takes place.

It is impossible to accurately estimate the death-rate in this condition, but it is believed to be nearly 100 per cent.; a cure being a most unusual triumph. Edgar, in discussing this subject, says that in 15 per cent. of such cases miscarriage occurs before the period of viability, and that in 33 per cent. of the remainder the children die during labor or shortly afterward.

The course of labor in the cases complicated with carcinoma of the cervix is attended with grave danger. If left to the natural course, death from hemorrhage of the friable but resisting lower uterine segment is very probable. The anemia, as well as the uterine infiltration, greatly predisposes the patient to general and local inertia; ultimately death ensues from shock, hemorrhage and sepsis. The course of labor is prolonged, often continuing several days; it is ineffectual in its mechanism, owing to the undilatable cervix and inefficient pains; it often terminates in the rupture of the uterus or maternal death from shock while still undelivered.

When there is a bare possibility of effecting a cure of the cancerous condition complete hysterectomy should be done as early as possible. The interests of the mother are to be considered whenever there is a reasonable hope that a cure may be effected and the Wertheim operation performed, regardless of the stage of gestation. Should the case be hopeless, so far as the interests of the mother are concerned, the welfare of the child is to be made paramount and an attempt made to reach the latest period in the course of pregnancy. This position is the consensus of opinion of both operators and authors.

At the end of the gestation period abdominal cesarean section with complete hysterectomy is the most popular treatment when it is hoped that both mother and child may be saved. In the cases in which the mother is beyond help abdominal cesarean section followed by complete hysterectomy when possible, or extraperitoneal treatment of the cervical stump after the amputation of the uterine body seems to be the most popular view at present. Ashton advises the amputation of the uterine body above the cervix in such cases and closes as in supravaginal hysterectomy for the purpose of closing off the cancerous mass. Duhrrsen recommends vaginal cesarean section, saying that it can be done as late as full term, delivery being followed by complete hysterectomy by the vaginal route.

It would seem that the control of hemorrhage, sepsis and shock would be more perfect by abdominal

cesarean section and the chances of the infant greatly increased, while by natural birth or operative delivery by the birth-canal both mother and child would be more exposed to danger.

REPORT OF CASE

Mrs. I. D., a well-nourished Italian woman aged 34, housewife. Family and previous histories negative.

Genital History.—Menstruation began at 14 years and until what seemed to be the beginning of the present illness was always regular in time, quantity and duration. Menstruation was slightly painful, periods lasting from three to four days and were moderate in amount. Patient married in 1903. Since that time there have been four pregnancies to the present illness, all terminating normally at full term; no miscarriages.

Present Illness.—This patient was first seen by me in consultation with Dr. Mary Holmes on April 22, 1913. She then complained of severe aching pain in both tubo-ovarian regions. For a period of two months there had been loss of flesh and strength with continual headache and backache. There had been urinary tenesmus, dark, bloody, foul-smelling vaginal discharge extending over a period of three months. At various times she had lost considerable blood from the vagina.

Examination.—Chest normal, abdomen enlarged symmetrically, showing presence of old and new striae. Fetal parts and fetal heart-sounds were easily made out, the heart beating at the rate of 120 beats per minute. The position was left occipito-anterior. Fetal motion was perceived. The infant was vigorous and had apparently reached the sixth month of gestation. Vaginal examination at that time revealed foul-smelling bloody, purulent discharge. The cervix was large, elongated, hard, nodular and bled very freely when touched. A portion was examined microscopically and found to be carcinomatous. It was also evident that the case was one of advanced carcinoma, since there was fixation of the uterus and vaginal infiltration. So far as a radical cure was concerned the case was hopeless. The blood-pressure was found to be 100 mg. and the hemoglobin estimated at 80 per cent.

The diagnosis of cancer and pregnancy was made and the interests of the infant made paramount. Every effort was made to forestall premature labor in the hope that cesarean section would deliver a living child if an advanced stage of pregnancy could be reached.

The patient was put to bed, given morphin liberally, encouraged to take nourishing food and given salt solution by the bowel daily. On June 12, 1913, labor ensued at approximately the thirty-second week of pregnancy and after a few hours the patient was exhausted by the pains and shock. Since no progress had been made in dilating the cervix cesarean section was advised and performed as soon as the patient could be transferred to the Columbia Hospital for Women. At the beginning of the anesthesia the baby's heart could be faintly heard, but in spite of rapid delivery it was still born, much to our regret.

Amputation of the uterus above the cancerous mass involving the cervix was done and it was planned to treat the cervical stump extraperitoneally. It was possible to do this, since the cervix could not be lifted out of the pelvis and could not be attached, so great was the infiltration and necrosis of the tissues. Closure in the usual method, as in supra-vaginal hysterectomy, was made after the cervical stump was thoroughly painted with full strength tincture of iodin. There was little hemorrhage, the abdomen was closed without drainage and there was no sepsis or wound infection.

Most extensive evacuation of the vaginal vault followed in spite of actual cautery with the angiotribe. The patient died six weeks after operation. She was out of bed but her failure in general ways was excessively rapid.

I believe that such cases can be safely closed by removing the body above the cancerous mass, thus doing away with the uterus that invites further extension and contamination. It is possible in this way to close off the necrotic cervical stump with pelvic peritoneum as in ordinary incomplete hysterectomy. By operating as soon as labor was evident, before shock had occurred and the patient thus exhausted, it is possible that this baby could have been saved; since it had always been vigorous until the day of operation. Abdominal cesarean section evidently was the only possible means of delivering this infant alive.

I am grateful to Dr. I. S. Stone for his advice and also to Dr. Mary Holmes for the courtesy in allowing me to see this patient.

The Burlington.

PARAFFIN CANCER

COAL AND PETROLEUM PRODUCTS AS CAUSES OF CHRONIC IRRITATION AND CANCER *

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It is customary to include in any summary of the causes of cancer the blanket term "chronic irritation." Prominent under this heading are the inflammations peculiar to the influence of tar, paraffin, anilin, tobacco and soot; lupus vulgaris (a small proportion) and other types of cutaneous tuberculosis; ulcerating syphilis, rarely; irritated warts and pigmented moles; cicatrices, especially from burns or chronic leg-ulcer; circumscribed keratoses — cutaneous horns — callosities, palmar and plantar arsenical lesions; leukoplakia buccalis and lesions in the neighborhood of jagged teeth, senile keratomas.[1] Hyde[2] mentions exposure to sunlight, while the almost mathematical certainty with which cancer may be induced by the Roentgen ray has become a matter of common knowledge.

The dermatitis resulting from paraffin irritation was first discussed at length by Volkmann,[3] who distinguishes an acute and a chronic stage. The acute stage expresses itself in various eruptions that are at times acneform and at other times exhibit broader papules. In other cases there are severely inflamed, partly confluent nodules and boils. But few workers in the fluid products in the manufacture of paraffin escape this condition. The acute stage lasts several months, and then the skin becomes accustomed to the contact of the aforesaid material so that the severely inflamed, moist and itching skin-changes no longer develop. Instead there now developes an increased formation of epidermis with an exaggerated secretion of the oil glands. The papules, boils and nodules shrink and form flattened, psoriasis-like spots with here and there rust-colored pigment spots. They may likewise leave behind whitish scars. The skin becomes dry, parchment-like or scaly and fissured. The hyperplastic epidermis cells lead to the formation of either circumscribed or more diffuse horny thickening. Mixed with a lesser or greater amount of sebaceous secretion, they form seborrheic plaques and crusts. Volkmann compares their appearance with hardened wax drops. When abundant they may present a resemblance to

* From the Surgical Clinic of Dr. Arthur Dean Bevan, Rush Medical College.

1. Hartzell: Jour. Cutan. Dis., 1903, xxi, 393.
2. Hyde: Am. Jour. Med. Sc., 1906, cxxxi, 1.
3. Volkmann: Samml. klin. Vortr. (Volkmann's), 1875, i, 370.

ichthyosis. The skin affection has been called "tar itch" by workers in this material. With the further development of the disease there develop multiple warty growths which later singly or in numbers degenerate into carcinomas. This final stage is described by Volkmann as follows:

As a result of individual predisposition and particularly deficient cleanliness, the process, which previously has been a hyperplastic epidermic growth and sebaceous secretion, now develops into multiple, warty or papillary formations, some of which degenerate into cancer. In some cases the sebaceous crusts described above exhibit almost a horn-like consistency. The chief seat of these hyperplasias are the exposed forearms and the scrotum. In an old workman Volkmann counted fifteen such warty growths with thick crusts on the dark-brown spotted and fissured forearm, and three on the scrotum. This picture of warty growths completely suggests the "verruca cancerosa" of the aged.

Schamberg[4] tabulated the reported cases of cancer in tar and paraffin workers up to 1910 and remarked on their frequent tendency to undergo spontaneous involution. Many of the lesions ulcerate and destroy themselves. Of 27 cases described occurring among 18 paraffin workers, 6 workers in fluid tar and 3 employees in coal briquet factories, the lesions were on the scrotum exclusively in 8; on the scrotum and thighs in 3; on the scrotum and arms, hands, legs or face in 7; in 9 the scrotum was not involved, the lesions being distributed on the arms and hands in 7, on the face in 1, and on the face, back, arms and hands in 1. In 13 the lesions were multiple and so situated as to render auto-inoculation, or growth by metastases, as an explanation of this multiplicity, unlikely. There were 7 deaths reported, 2 due to recurrences after operation and 4 recoveries. The final outcome in the remaining 16 was not stated. Metastases occurred late in the disease and were usually lymphatic.

The source of the tar seems to be of great importance from the point of view of its power to damage the skin of workmen. In Great Britain "gas-works tar" as a rule produces dermatitis with the accompanying danger of malignant degeneration, while "blast-furnace tar" does not.[5] One explanation of this difference, experimental demonstration of which has been offered, is that "gas-works tar" contains substances which are capable of inducing cell division *in vitro*, and of causing the production of tumor-like masses in experimental animals, while "blast-furnace tar" does not. Pure paraffin apparently is not concerned in the production of cutaneous abnormalities, but the irritating substances seem to be present in crude paraffin as bodies having possibly an amidin ($N-C=N$) nucleus, and associated particularly with compounds of the anthracene group. The greater portion of them are separated from paraffin probably with the thick, heavy oil analogous to the "pressed distillate" to be described later.

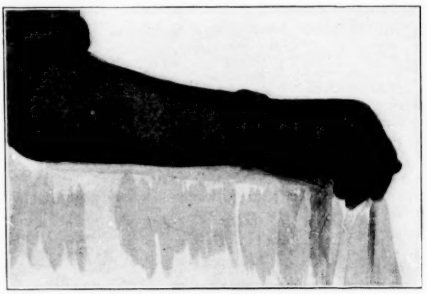
Study of the case which I wish to report through the courtesy of Dr. Arthur Dean Bevan reveals the following facts:

History.—The patient, A. P., man, aged 52, married, Hungarian, a laborer, entered the Presbyterian Hospital on the service of Dr. Bevan in March, 1913, at which time the following notes were made:

"A. P. is the oldest of thirty-two employees in the paraffin-refining department of a large oil-refining company located near Chicago. He states that after working in the refining department for a while all the workmen develop an eruption on the skin of that part of the arms which is immersed in the oil. The skin becomes slightly discolored, pigmented and thickened in circumscribed regions, sometimes to the extent of forming warty excrescences. One such growth on the patient's arm has been gradually increasing in size for the past two years until at present there is a cauliflower-like excrescence on his right arm just above the wrist, about the size of a silver dollar. Usually the patient has been able to abort such growths by the use of home remedies, but this one has resisted all his efforts.

"A. P. has been employed for over twenty years in the same department, longer than any one else, and only one other employee has at the present time a growth which resembles his. Except for this the patient is well.

"*Physical Examination.*—On the posterior aspect of the right forearm just above the wrist is a round, elevated, ulcerated, cauliflower-like growth. It is not painful or tender, and is about the size of a silver dollar. The skin of both forearms is slightly pigmented and is curiously mottled with regions that are brownish in color, slightly elevated, somewhat rough to the touch with a tendency toward scaling, and varying in diameter up to 7 or 8 mm. There are no other abnormalities.



Appearance of gross lesion in paraffin cancer; note mottling of the forearm.

"A section taken from the tumor and stained presented the picture of a typical epithelioma with pearls.

"*Operation.*—March 6, 1913, an oval incision was made about the epithelioma down to the muscles, and the tumor with the adjoining skin and fascia was removed in one piece. Thiersch grafts were used to cover the defect. The wound was dressed with gutta percha strips and gauze. The patient was discharged on the twenty-third day with wound completely healed. There was no sign of recurrence when the patient was seen six months later."

Investigation at the oil company's plant disclosed conditions about as follows:

Skin lesions attributable to their occupation were found only in the men employed in the press-rooms. Here the crude paraffin is run into great presses and the oils, "pressed distillate," expressed. The paraffin remaining in the press, so-called slack wax, is scraped off by men who use spade-like instruments and usually work bare-handed with sleeves rolled up above the elbows. During this process the workmen become pretty thoroughly smeared with the pressed distillate. The work is done at room temperature. During the first few

4. Schamberg: Jour. Cutan. Dis., 1910, xxviii, 644.
5. Ross, Cropper and Ross and Associates: Researches into Induced Cell Reproduction and Cancer, and Other Papers, 1911, i, 1912, ii, and 1913, iii; the John McFadden Researches.

months of employment in this department the majority of the workmen suffer from "wax-boils" affecting any portion of the skin, but particularly the arms and neck. The susceptibility to this trouble, which appears to be a species of furunculosis, may disappear in time to a very large extent. A certain proportion of the workmen, however, will develop still further lesions. Thus after a number of years pigmented spots make their appearance; some of these are scaling and psoriatic, others merely rust-colored areas varying in diameter from a few millimeters to a centimeter and a half; these may be followed by wart-like growths of slow development amenable to various common remedial measures; finally, true epithelioma, as in the patient A. P., may appear. These changes are seen only in those employees who come into intimate and nearly continuous contact with the "pressed distillate" for a period of years. Wax-boils and the subsequent lesions are unknown among the workers in the finished paraffin and among the men who handle the crude oil.

Inquiry at two other paraffin-refining plants, one at Cleveland and the other at Franklin, Pa., revealed conditions similar to those at Chicago, with the exception that less than 1 per cent. of the employees were said to be affected at all, and no cases of cancer had been observed. One manager says:

> In this connection, however, I would state that by the present methods of handling paraffin the men do not come as much in contact with it as they did years ago by the old process. Formerly there were a great many men employed at this work who suffered considerably from wax-boils.

Another writes:

> It is our general belief that if the men are perfectly clean, that is, wash themselves carefully after they finish their work, they never have any trouble.

A request for information as to the chemistry of the pressed distillate brought a reply from the chemists of the oil company, which is here quoted in part:

> Very little is known of the scientific chemistry of the oils you mention. Of course, we know a great deal about how they behave in a practical way. Generally speaking, I would say that 90 per cent. of this oil is composed of completely saturated members of the paraffin series C_nH_{2n+2}. Such bodies are perfectly inert and could not be active from a physiologic standpoint. The other 10 per cent. is composed of unsaturated bodies, perhaps of the series C_nH_{2n} and they could act as irritants or in some other way be detrimental to a person's health.

Attempts to induce tumor-like lesions in animals by the use of "slack-wax" and "pressed distillate" have so far been unsuccessful.

Closely allied with the subject of tar and paraffin cancer are the cases of tobacco cancer, cancer in workers in anilin dyes, chimney-sweep's cancer and the so-called kangri-burn cancer of India.

TOBACCO CANCER

In 1850 attention was directed to tobacco cancer by Melzer,[6] who reported on the incidence of cancer at the General Hospital at Laibach for the years 1787 to 1849, inclusive. Of the 27,800 patients treated, 433 had cancer; of these, 142 were on the lip. The patients were all in late adult life; 127 were men, 15 were women. These people were in the habit of smoking wooden, copper-sheathed pipes, with stems so short — not over 2 inches in length — that when in use the bowl of the pipe came almost into direct contact with the lips of the smoker. Melzer felt that the connection between the use of this pipe and the cancer of the lip was obvious. Of 350 cases of cancer of the lip in which operation was performed by Sir Thornley Stokes,[7] only three were in women, but all were assiduous smokers. These patients were peasants from the west of Ireland, and Stokes believed that their use of short clay pipes was directly associated in a causal manner with the production of their cancers.

A good deal of emphasis has been placed on the fact that cancer of the upper extremity of the digestive and respiratory tracts is predominatingly a disease of the male sex — the sex that is especially addicted to the use of tobacco — and that this is the location at which one might expect the lesions resulting from the use of tobacco to manifest themselves. Russell[8] points out that the incidence of cancer of the jaw and especially of the tongue increased 228 per cent. in forty-one years, while the habit of smoking more than doubled during the same period. In Switzerland during the years 1905 to 1909, cancer of the lip was five times more frequent in men than in women; cancer of the tongue, ten times more frequent in men, and cancer of the larynx, parotid gland and pharynx seven times more frequent, while the total mortality of the two sexes from cancer was almost equal.

Leukoplakia buccalis is usually the first evidence of the harmful local effect of the use of tobacco, and conversely, excessive smoking—according to Pusey[9]—is perhaps the most important source of irritation in producing the leukoplakia. "The condition is without subjective sensation. Its importance lies in the fact that it is very frequently the site of cancerous degeneration."

The substances in tobacco which act as local irritants predisposing to cancer are probably not confined to the smoke, but also appear to be present in tobacco-juice. Von Esmarch[10] in 1873 remarked that the cases he had observed of severe papillary cancer of the mucous membrane of the mouth and of the gums in youthful subjects had occurred in those who chewed tobacco, and von Langenbeck[11] mentioned two cases of cancer of the buccal mucous membrane, due to holding masses of tobacco against the cheek.

Tobacco is one of the important constituents of "betel-nut," which is chewed so extensively by the inhabitants of various tropical countries.[12] The betel-nut, more properly called the areca-nut, is produced by the areca palm.[13] The nuts grow in clusters beneath the crest of the palm, in a similar manner to the cocoanut. Areca-nuts are very similar to large nutmegs, both in size and appearance, and, like cocoanuts, are enclosed in an outer husk of a fibrous texture. "The consumption may be imagined when it is explained that every native (of Ceylon) is perpetually chewing a mixture of this nut and betel leaf. The betel is a species of pepper, the leaf of which very much resembles that of the black pepper, but is highly aromatic and pungent. . . . To make a 'chew': Take a betel leaf, and on this spread a piece of chunam (lime made

6. Melzer: Jenaische Annalen, 1850, ii, 480.

7. Stokes: Practitioner, London, 1903, lxx, 577.
8. Russell: Preventable Cancer, 1912.
9. Pusey: The Principle and Practice of Dermatology, 1907, p. 993.
10. Von Esmarch: Quoted by Leuenberger, Footnote 16.
11. Von Langenbeck: Quoted by Leuenberger, Footnote 16.
12. Baker: Eight Years in Ceylon, London, Longmans Green & Co., 1902.

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from burnt coral) as large as a pea; then cut very thin slices of areca-nut and lay them in the leaf; next, add a small piece of ginger; and lastly, a good sized piece of tobacco. Fold up this mixture in another betel leaf." Cancer of the cheek is common among these people, the lesion appearing at the point against which the betel "cud" is habitually lodged. In the hospitals of Madras during the years 1892 to 1901, inclusive, 4,270 malignant tumors were observed,[8] constituting 2.5 per cent. of the total number of hospital cases. In nearly one-half of the cases the site of the cancer was the mouth or tongue of patients who habitually chewed "betel-nut." Dr. G. G. Davis, in a personal communication, says that he finds a high incidence of mouth cancer among Filipino betel-nut habitués. Baker[12] supposes the disease to result from the irritation of the caustic lime which the "chew" contains; but the possible importance of the other ingredients should not be forgotten.

Tobacco-smoke, according to Ludwig's[13] analyses, contains ammonium carbonate, ammonium acetate, acetic acid, phenol (carbolic acid) and tar. Other observers have mentioned pyridin bases and empyreumatic oils. Which of these bodies is the irritant which induces leukoplakia and cancer, or whether several of them may not present the requisite irritating qualities, is beyond our ken. It is possible that phenol may be exonerated,[14] but further speculation does not appear to be warranted.

ANILIN DYE CANCER

Formerly it was supposed that workers in anilin dyes were free from lesions induced by their occupation;[15] but the demonstration that deaths from bladder tumors are thirty-three times as frequent among dye workers as among the population in general,[16] and the experimental production of epithelioma-like tumors in man[17] and in animals[18] by means of a great variety of anilin derivatives and products of tissue decomposition,[19] has thrown the actual relation into bold relief. The substances possessing the necessary irritative qualities resemble each other in that they are hydroxylated aromatic amido-bodies. Most of them are distinctly coal and petroleum products and, therefore, the chronic-irritation tumors which they induce belong in the tar and paraffin cancer group.

CHIMNEY-SWEEP'S CANCER

Chimney-sweep's cancer is undoubtedly due to the irritation of soot and has been regarded as a clinical entity since its description by Percival Pott[20] in 1775. It is a typical epithelioma, occurring as a rule on the scrotum — although arms, hands and thighs may be attacked — and running a very chronic course leading to ulceration, metastases and death if not interfered with. The disease is rarely seen except in England and seems to be associated etiologically with the kind of coal which is there used for fuel. Curling[21] says that pit-coal, from which soot is produced, is very sparingly employed as fuel elsewhere than in England, and Baum[22] has shown that chimney-sweep's cancer was unknown in Hanover until wood was supplemented by coal for fuel.

During the years 1900, 1901 and 1902, the comparative mortality-figure[8] for cancer among English chimney-sweeps from the ages of 26 to that of 65 was 133 as compared with 63 among occupied males at the same ages. Apparently, soot produces irritation of the skin similar to that produced by paraffin and tar, and with similar results.

KANGRI-BURN CANCER

In 1910 E. F. Neve[23] reported on the occurrence of the so-called kangri-burn cancer. Of 4,902 tumors removed by operation in the Kashmir Mission Hospital in the course of twenty-five years, Neve found that 1,720 were malignant; of these 1,189 were epitheliomatous and 484 were on the thighs or abdomen and were due apparently to the irritation of the kangri, a portable fire-basket carried by the people under their clothes.

Kangri-burn cancer is a typical squamous-celled epithelioma. In the early stages the malignancy is slight, the glands are slow to become infected and the disease is readily amenable to operation. It is demonstrably due, according to Neve, to a definite cause, namely, irritation from the constant application of heat. The preepitheliomatous skin changes resemble closely those seen in paraffin- and tar-workers. It is extremely common to find dry, scaly, pigmented spots or patches slightly raised from the surface. The skin is often mottled and pigmented, and shows the lines of distribution of superficial veins. Horny tumors are not rare, and sometimes at their base transition into epithelioma can be demonstrated. There is also a condition allied to chronic eczema in which there is redness and a tendency to desquamation. This gradually shades off into the actual formation of scar-tissue. Objection may justly be raised to Neve's dogmatic assertion that such changes are due to irritation by heat, for the skin of these patients is subjected to other causes of irritation in the soot and gaseous emanations from the fire-baskets.

SUMMARY

The similarity of the lesions following the types of chronic irritation which have been briefly described suggests the probable similarity or possible identity of the irritating agents or agent concerned. Is this factor merely the mechanical effect of the presence of minute foreign bodies — soot — on and in the skin? Probably not; and the best argument against the idea seems to be furnished by the fact that workers in blast-furnace tar escape cutaneous involvement while workers in gas-works tar usually suffer from skin lesions, and the exposure to tar or pitch-dust is the same in both cases. Can the lesions be the result of prolonged exposure to heat and repeated burns? Probably not, because this would never account for the bladder tumors of anilin-workers, and most of the labors of paraffin- and tar-workers and chimney-sweeps are carried on at room temperature or outdoors, and these men are not the victims of frequent burns. This brings us to the assumption that there is some chemical body (or bodies) resident in certain coal and petroleum products which are capable of inducing inflam-

13. Ludwig: Arch. f. klin. Chir., 1877, xx, 363.
14. Tillmanns: Ztschr. f. Chir., 1880, xiii, 519.
15. Grandhomme: Die Theer Fabriken, Heidelberg, 1883.
16. Leuenberger: Beitr. z. klin. Chir. (von Bruns), 1912, lxxx, 208.
17. Stoeber: München. med. Wchnschr., 1910, lvii, 709.
18. Fischer: München. med. Wchnschr., 1907, liv, 879.
19. Stoeber and Wacher: München. med. Wchnschr., 1910, lvii, 947.
20. Pott: Chirurgical Works, London, 1775, p. 734. (See Schamberg, Footnote 4.)
21. Curling: Die Krankheiten des Hodens, Samenstranges und Hodensackes, Deutsch von Reichmeister, Leipsic, 1845.
22. Baum: Quoted by Posner, Ztschr. f. Krebsforsch., 1903, i, 4.
23. Neve: Brit. Med. Jour., 1910, ii, 589.

matory productive reactions in tissues and eventually atypical, unrestrained proliferation of epithelial cells. In favor of this suggestion let me cite several facts.

Physicians of large experience in paraffin prosthesis demand paraffin of the very highest purity for their work, because it seems that paraffinomas, that is, inflammatory tumors which occasionally develop at the site of a paraffin injection, are especially apt to appear following the use of paraffin of inferior grade.

Epithelioma develops earlier and with greater malignancy in workers in fluid tar and paraffin than in those who are subjected merely to the dry dust and soot. This observation agrees with the generalization that substances are most active chemically when in solution.

None other than a chemical cause seems possible in relation to the bladder tumors of anilin workers, and to the betel-nut and tobacco cancers.

Ross, Cropper and Ross[5] assert that they have demonstrated the existence of a number of chemical bodies, twenty-five or thirty, which are capable of inducing cell division *in vitro;* these bodies they term "auxetics." Auxetics have been demonstrated in gas-works tar but not in blast-furnace tar; moreover, Bayon[24] was able to induce atypical epithelial overgrowths in animals by the use of gas-works tar containing auxetics, while experiments with the auxetic-free blast-furnace tar resulted negatively. Ross, Cropper and Ross place certain products of tissue decomposition among the auxetics and suggest that the latter may be responsible for the proliferation of tissue which occurs in healing wounds, and that their continued presence in tissues for a long period, as in areas subjected to "chronic irritation," may be the factors which determine malignant degeneration in such areas.

Schamberg suspected radio-activity as the possible exciting force in tar products, but its presence could not be demonstrated in specimens examined for him at the University of Pennsylvania.

CONCLUSION

It would seem fair to assume that the chronic-irritation cancer produced by coal and petroleum products is a chemical-irritation cancer, and that it is not impossible that the cancer following chronic irritation of other origin may be of an essentially similar nature.

I am greatly indebted to Dr. Arthur Dean Bevan for permission to report this case and for assistance in gathering data on it.

122 South Michigan Avenue.

24. Bayon: Lancet, London, 1912, clxxxiii, 1579.

Mental Diseases.—We talk a great deal about the human mind, and, when cornered, quote Hamlet to cover an unpleasant ignorance of its true nature. The modern student, like the ancient, takes his stand either with Plato and compares the mind and brain to a player with his musical instrument, or with Lucretius to a musical box wound up for so many years to play so many tunes. Authorities lean to one or other of these views, and I have a shrewd suspicion that some of our distinguished visitors, great representatives in this specialty, do not see eye to eye in this matter. Three things we do know, departures from normal states are extraordinarily common—they are the most distressing of all human ills—they should be studied systematically by experts, with a view to their prevention and cure.—Osler: Specialism in the General Hospital.

ELEPHANTIASIS AND THE KONDOLEON OPERATION *

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RALEIGH, N. C.

In my section of the country, elephantiasis is certainly an uncommon disease. My only case, and the only one so far recorded by any observer from this state, is the one herewith presented. By a fortunate circumstance, about the time this patient was admitted, there came from Dr. Rudolph Matas[1] of New Orleans his monograph on elephantiasis, which sums up all that is known of this disease and its kindred affections up to the present time, and to which I am indebted for valuable information. Particularly do I wish to testify to the benefit derived from an operation proposed by the Greek surgeon Kondoleon, to whom Matas gives full credit.

Fig. 1.—Elephantiasis of leg, front view.

History.—Charles P., a mulatto, aged 23, was referred to me in December, 1913, by a physician in Sanford, N. C., with the suggestion that I should amputate his leg. The patient was willing to submit to amputation, since he was no longer able to do his work as a cook. Born in Virginia, he went to Philadelphia at the age of 16, and after twelve months shipped to Florida. For two and a half years he remained in that state, living at different times in Jacksonville, Tampa and Key West. Later he moved to South Carolina, and that is his present home. During the summer of 1911 his right leg and foot began to swell, following an acute attack, accompanied by pain, redness and fever. In the winter months the condition improved, but each summer the swelling, pain and fever returned. The leg has steadily increased in size until it seriously interferes with his occupation. Locomotion is difficult and wearing of ordinary trousers impossible.

* Read by invitation before the Medical Association of the State of Alabama, April 23, 1914.

1. Matas, Rudolph: The Surgical Treatment of Elephantiasis and Elephantoid States Dependent on Chronic Obstruction of the Lymphatic and Venous Channels, Am. Jour. Trop. Dis. and Prev. Med., 1913, i, No. 1.

Examination.—This disclosed a typical Barbados leg. The enlargement was confined to the right leg and foot and did not extend above the knee. The circumference at the calf was 22 inches, above the ankle 18 inches and of the foot 14 inches. The skin was exceedingly hard, thick and rough; in some portions it was scaly, in others horny; at the bend of the ankle there was a wide fold, which prevented proper motion of the joint. There could be no difficulty in making a diagnosis of elephantiasis (Fig. 1).

Detailed investigation elicited the following: The Wassermann reaction was negative; repeated study of the blood, taken at various hours of night and day, and continued over several weeks, showed no filariae; at one time a decided eosinophilia (11.2 per cent.) was present; the urine was normal. The eosinophilia was most probably due to an accompanying hookworm infection, as the eggs were found in the feces.

Operation and Result.—In the management of the case the patient was first assured that the sacrifice of his limb must be the last resort. After going over carefully all the procedures proposed for the relief of elephantiasis, it was decided to do the Kondoleon operation. For four days previous the man was put to bed; each day the leg and foot were scrubbed in a strong mercuric chlorid solution, bandaged tightly with a Canton-flannel roller and kept elevated on pillows. As a result of this, the leg was reduced in size about 2 inches. Jan. 3, 1914, the operation was performed as follows: A long incision was made through the skin on each side of the leg, extending from knee to ankle. Wide retraction of the integument was secured by dissecting it back freely from each edge of the incision. Going from above downward, the deep fascia to the width of three fingers was dissected off the muscles and cut away in one piece of the length of the wound. Also, the same area of subcutaneous tissue was removed by splitting it off the skin. The muscles were laid bare and free hemorrhage occurred, requiring many ligatures. The skin was stitched back in position, dressings applied and the leg bandaged without a splint.

One week later the first dressing revealed primary union, except at the lower third of the incision on the outer side of the leg, where sloughing of the skin edges had occurred. Undoubtedly too much of the subcutaneous tissue had been removed, leaving the skin at that point thin and poorly nourished. The whole leg was very much smaller (17 inches at the calf) and the ridge across the ankle had disappeared (Fig. 2). One month afterward further progress was evident: the leg had diminished in size, the foot was much more flat and the patient could walk with comparative ease. Feb. 12, 1914, he was exhibited to the Wake County Medical Society. At the present time (April 23, 1914) the improvement is still evident; there has been no going back. The patient is able to get about and will probably take up his work in a short while.

The auxiliary treatment consisted, first, in the hypodermic administration of thiosinamin (fibrolysin) every three days, over a period of two weeks while the patient was in bed. On two occasions a marked reaction resulted from an ordinary dose and it had to be given in smaller quantities. Then, on April 10, an intravenous injection of salvarsan was given empirically, for the purpose of combating the possible parasitic or microbic origin of the disease, in spite of our inability to demonstrate the presence of any infective organism. Since the injection the eosinophils have reduced to 6 per cent. It is too early to predict the final result.

Comments on this case will naturally include some account of recent advances in the study of the etiology and pathology of elephantiasis. First and foremost it may be asserted that we have not yet arrived at the point of knowing the true nature of the disease. Of one important fact, however, we are quite sure — that not all cases are due to the *Filaria sanguinis hominis*, as was formerly taught. "It will be opportune to note the fact," says Matas,[1] "that the filarial or strictly tropical type of elephantiasis is practically unknown in Louisiana or on the Mexican Gulf Coast and in the South Atlantic States." And again, "The human filaria is very rare and, as a rule, imported from the West Indies and Central American countries. Even in these tropical latitudes, where elephantiasis is common (Barbados leg), its association with filariasis is not as frequent as one would suppose." It is barely possible that even with the utmost care one might fail to find the filariae, either because the exact time of their appearance in the circulating blood had not been determined, or because of a possible permanent clumping of the organisms in the lymphatics.

In the non-parasitic type of elephantiasis a number of causes are operative — traumatism, syphilis, phlebitis, skin-diseases, etc. Chief interest is now being given to the view that the majority, if not all, of this group of cases result from infection with a streptococcus similar to or identical with that of erysipelas, and that the clinical histories will bear this out. Even in the parasitic varieties Manson, the discoverer of the filarial origin of the disease, has been quoted as saying

Fig. 2.—One week after operation.

that "a secondary microbial infection of the obstructed area is necessary to cause the tissue changes of elephantiasis." The story of my case seems to give credence to the erysipelas theory and will serve to keep before us the suggestion of Matas to administer "a systematic course of treatment with polyvalent antistreptococcic serum to be injected in doses of 10 c.c. at least three times weeky." For the present, I shall wait for whatever effect the salvarsan may have and then decide on what further course to pursue.

It will not be necessary or expedient to rehearse the many procedures which have been employed from time to time in the alleviation of elephantiasis. Suffice it to say that no method or combination of methods has yet proved to be absolutely curative. Kondoleon's plan, with which we are here concerned, was evolved from the idea of Lanz of Amsterdam, who referred to his procedure as a "deep lymphatic derivation." But Lanz's operation is technically difficult, while the

method offered by Kondoleon is simple. The principle involved is that, by removal of the deep fascia, there is brought about an anastomosis between the deep and the superficial lymph-spaces. The operation is new and has not been performed in a sufficient number of cases to warrant any definite opinion; Kondoleon himself has done it but six times, and, though his reports were favorable, only two months had elapsed since the last operation. I can say, however, that the method appeals to me as rational and that, so far, the result in this one case is satisfactory.

At this writing, more than three months after the operation, the measurements of the affected leg are: calf 15¼ inches, above the ankle 15½ inches and foot 13¼ inches. The sound leg shows the following: calf 15½ inches, above ankle 10½ inches and foot 10½ inches. It will be noticed that very little decrease has been secured in the size of the elephantiac foot, and I would propose a similar operation in that region as the next step, provided it could be done without damage to the tendons. The skin over the whole leg is much smoother and quite movable over the underlying tissues.

TRAUMATIC DETACHMENT OF THE BLADDER FROM SYMPHYSIS PUBIS WITH COMPLETE SEVERANCE OF URETHRA

USE OF THE LABIA MINORA AS A SUBSTITUTE FOR NECROSED ANTERIOR VAGINAL WALL

AXEL WERELIUS, M.D.
CHICAGO

Pressure necrosis of the anterior vaginal wall, due to prolonged and difficult instrumental labor, is not a very frequent complication, especially to the extent in which it occurred in the case reported below, in which the urethra had completely disappeared and the bladder was entirely detached from the symphysis, suspended only by the ureters and the peritoneum covering its posterior surface.

The literature on the subject of the traumatic separation of the bladder from the symphysis is somewhat meager, and this case seems to be the first reported as occurring from labor.

Ludolf Süssenguth[1] reports a case observed about the same time as mine. He states that he found only three other cases in the literature, those of Bartels, Grossich and Stierlin.

These cases were all produced by a sudden trauma. Whether the condition in my case was brought about by sloughing, following a prolonged and excessive pressure on the parts involved, or suddenly produced by the organ being torn loose during a difficult instrumental delivery, I am unable to determine, as I saw the case at first five months after the confinement, and in the interval the patient had never been examined. The severance of the urethra, however, took place at once, as incontinence of urine followed immediately after the labor.

Stierlin[2] endeavors to explain the mechanism of the injury to his patient, a young man who had the pelvis compressed between two wagons, by contending that there was a momentary dislocation of the symphysis, the two pubic rami overriding each other, thus tearing the bladder loose.

In Süssenguth's case the most careful post-mortem exploration failed to reveal any injury to the symphysis or any of the surrounding bony structures. He reasons that the partly filled bladder extending somewhat above the pubis was forcibly pushed backward; its connections to the symphysis, being unequal to the strain, gave way, at the same time tearing the urethra.

Stolper,[3] fortified by extensive researches on injuries in this region, believes that outside of a diastasis, isolated luxation of the symphysis could hardly occur. This somewhat antagonizes the theory of Stierlin, favoring the simpler explanation of Süssenguth.

Aside from the unusual pathology, my case might be of some interest from the mode of vaginal repair. After having twice vainly endeavored to close the gap left by the necrosed anterior vaginal wall, by using the remnants of this wall and nearby structures, I used the labia minora as a substitute for the absent vaginal tissue.

Fig. 1.—*A*, dislocated bladder; *B*, edge of necrosed vagina.

Fig. 2.—Labia minora as substitute for necrosed anterior vaginal wall (semidiagrammatic).

REPORT OF CASE

History.—The patient, a woman aged 32, was admitted to South Shore Hospital, March 5, 1913. Following a very tedious and difficult labor terminated instrumentally Oct. 7, 1912, the patient has been unable to hold her urine. For weeks subsequent to the confinement there was a foul vaginal discharge, followed later by a profuse leukorrhea, lately, at times mixed with blood. The patient also complains of pains in the pelvis, radiating down the limbs and into the back, aggravated by exertion. The appetite has lately been very poor. The bowels are greatly constipated. She is becoming more and more nervous and irritable and has lost in weight and feels very weak. The past history and family history are negative. The patient's habits are good. Menstruation is greatly lessened but regular.

Examination.—The general appearance is that of a poorly nourished young woman. Head, neck, chest and extremities are negative. The lower abdomen is somewhat tender on palpation. Vaginal examination reveals an almost complete absence of the anterior vaginal wall. On increased abdominal pressure the bladder protrudes far out of the vagina (Fig. 1); the bladder wall seems highly congested and bleeds

1. Süssenguth, Ludolf: Deutsch. Ztschr. f. Chir., cxix, 490.
2. Stierlin: Beitr. z. klin. Chir., lxv, 616.
3. Stolper: Deutsch. Ztschr. f. Chir., lxxvii, 498.

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easily. There are no signs of any urethra. The bladder seems to be suspended only from the ureters and its posterior peritoneal covering. The under surface of the symphysis is palpable. Blood examination reveals: erythrocytes 3,400,000; leukocytes 8,200; hemoglobin 65 per cent. The urine contains a large amount of albumin, but no casts.

Operation and Result.—Three attempts were made to close the defect. The first operation was done March 10. The edges of the remains of the vaginal wall were freshened and undercut, and brought together anteroposteriorly with chromicized catgut and an opening left for the escape of the urine. Two weeks later the condition was about the same as before operation. April 14 I operated again. The edges were freshened and undermined as before but united laterally with strong silk. These silk threads formed nuclei for calcareous deposits which in a few weeks almost cemented the entire vagina, causing considerable pain and discomfort. The last operation was performed May 5. The bladder was found to be held up fairly well from perivesical adhesions. The edges of the labia minora were freshened and incised along the outer and upper borders and dislocated inward over the vaginal defect and sutured with chromicized catgut as in Figure 2.

On reexamination, September 12, the patient had gained over 20 pounds. The pain had disappeared. The flaps partly held. Feb. 2, 1914, the local findings were about the same. There was no pain. The general condition was good.

1230 East Sixty-Third Street.

A CASE OF ACUTE NICOTIN POISONING OF PECULIAR ORIGIN

HARRY S. REYNOLDS, M.D., NEW HAVEN, CONN.

The following case seems worthy of brief mention not only because of the rarity of occurrence of severe acute nicotin poisoning, but particularly owing to the peculiar circumstances of its origin.

At about 10:30 a. m., April 14, 1914, Rudolph D., a well-nourished infant aged 5 months, was brought into my office *in extremis* by its mother, a Slav woman, who stated that the baby had swallowed some tobacco.

On careful questioning I elicited the following history from the mother: The patient was a bottle-fed infant, and on the preceding night, according to her usual custom, the mother had prepared a mixture of milk and water which she left in a basin on either a stove or a table in the kitchen. The patient, who had apparently been in excellent health, was fed some of this mixture at 1 a. m. and again at 4 a. m. At 5 a. m. the mother discovered some tobacco in the bottle nipple, and on investigation found some more tobacco (quantity indefinite) in the milk basin, on which she threw out this milk mixture and made up a new one, which was fed to the baby at 6 a. m. Shortly afterward she went out to work, leaving the infant in the care of his father. A little later the patient began to show signs of distress and vomited twice. The mother was summoned and later sought medical aid as above stated. On the preceding evening the father had entertained some friends at his home and apparently, as all hands were smoking, some one in the party had carelessly spilled or discarded the tobacco which was found in the basin.

The patient, when first seen by me, was cyanotic and in a state of collapse. His head was sweating profusely and his extremities were cold and clammy to the touch. There was some twitching of the muscles of the face. Both pupils were widely dilated. The pulse was weak and irregular, the circulation having a pronounced tendency to fail, but responded temporarily to stimulation. Respiration was slow and labored and marked by a loud inspiratory gasp; breathing at times became so slow that artificial respiration was resorted to on several occasions.

Atropin, strychnin, brandy, epinephrin, coffee enemas, external heat and gastric lavage were administered and early in the afternoon he was apparently much improved, but at 3:30 p. m., at a time when his condition seemed quite favorable, respirations suddenly ceased entirely and on immediate investigation the heart was found to have ceased beating.

The post-mortem appearance was remarkable, the skin becoming almost immediately covered with purple blotches, which varied from the size of a ten-cent piece to that of a half dollar—an appearance which was interpreted as indicating the results of a condition of extreme vasomotor disturbance.

As the father's company left the house at midnight, the inference would seem to be that the tobacco found its way into the milk and water mixture before the 1 o'clock feeding, nicotin having then begun to extract out, and that at the 4 o'clock feeding the infant received the maximum dose of nicotin extract.

321 Grand Avenue.

DEAF-MUTISM (LABYRINTHINE DEAFNESS) AS A RESULT OF PURPURA HEMORRHAGICA*

G. W. STIMSON, M.D., PITTSBURGH

J. D., girl, aged 4, white, American, was referred to me, Jan. 7, 1914, by Dr. R. H. Boggs of this city, the patient coming from Maryland. The complaint was deaf-mutism. The family history of the little girl was good. She was accompanied to my office by her father and mother, both of whom were healthy. The patient had been a perfectly healthy child, normal in every respect, until she reached the age of 23 months. She heard sounds readily, started at noises and responded as intelligently as any child of her age to questions and speech directed to her by her parents. She had acquired quite a vocabulary so that her speech was well advanced for a child of her age. She could repeat anything she was told. There was never the slightest question of her intelligence or her ability to hear as well as any one.

When she was 23 months old she was seized with an attack of purpura hemorrhagica. Her parents state that within a day or two after the onset "she went stone deaf and has remained so ever since."

She is a bright, intelligent-looking little girl, apparently normal in every way except as indicated.

Examination of the nose and throat showed nothing abnormal. The external ears, auditory canals and tympanic membranes were normal in every respect. As the child seemed frightened and was examined with considerable difficulty, no tests were made of the irritability of the labyrinths to stimuli, as demonstrated by use of the caloric test, the turning test or galvanism.

The child's deafness is absolute. Her attention is not attracted by any sounds or noise however loud. Tuning-forks placed on vertex and mastoid processes produced no perceptible change of expression. She has progressively lost her power of speech until now she retains only one or two words, chiefly an almost unintelligible "ma-ma."

The diagnosis seems to be obviously that of labyrinthine deafness due to severe hemorrhage into both labyrinths at the time of the attack of purpura hemorrhagica. The hemorrhage was probably of such extent that complete disorganization of the parts took place from pressure, and a return to the normal condition became impossible even though the effused blood was subsequently absorbed.

As practically all children who acquire deafness under 7 years of age, and invariably a child as young as this one, promptly forget the few words they have learned, the loss of the sense of hearing inevitably leads to the development of mutism as well, as it has done in this case.

In none of the text-books on diseases of the ear at hand is any reference made to purpura hemorrhagica as an etiologic factor in the production of acquired deaf-mutism or labyrinthine deafness.

Jenkins Arcade Building.

* Reported before the Allegheny County Medical Society, April 21, 1914.

A SATISFACTORY LOCAL ANESTHESIA FOR THE SUBMUCOUS RESECTION OF NASAL SEPTUM

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Attending Laryngologist to the Hospital for Ruptured and Crippled

Realizing the difficulties encountered by many in securing a satisfactory local anesthesia for the submucous resection of the nasal septum, I offer to the profession this method, which has been very satisfactory to me in over four hundred resections. Some years ago I was not entirely satisfied with any of the methods I had seen used and I began to try out various methods in the hope of securing a technic that would eliminate the objectionable features of all methods, which are fright, nervousness, toxicity from cocain and epinephrin solution, shock, hemorrhage obscuring the operative field and the sequelae of severe headaches and toothache as the effect of the cocain wears off.

The several elements in my anesthesia are not original, but as far as I am aware the whole technic is original and is given below.

Half an hour before I begin to produce the local anesthesia the patient receives by mouth 1/150 grain scopolamin hydromid. This drug allays the patient's fears, overcomes any nervousness and is the therapeutic antagonist to cocain. It is used extensively by neurologists in the treatment of the insane and very nervous patients.

Half an hour after the patient has taken the scopolamin, I apply with a cotton wound applicator to every portion of the mucous membrane of the septum a 20 per cent. solution of cocain hydrochlorid, first painting very gently over every portion of the septum on the right side and then on the left side. Immediately after the first application over both sides of the septum I repeat the application as before. This makes two complete applications of a 20 per cent. solution of cocain to each of the septal mucous membranes. For each application I use a fresh cotton wound applicator moistened with the 20 per cent. cocain solution.

These two applications of 20 per cent. cocain solution are followed immediately by a similar application to every portion of the septal mucous membrane of a solution of 1:1,000 epinephrin solution. I then inject under the septal perichondrium and periosteum on each side from 8 to 10 c.c. of a sterile normal salt solution to which 5 minims of 1:1,000 epinephrin solution has been added immediately before injection. This injection completes the anesthesia, infiltrates every portion of the septal membrane, blocks off the nerves preventing shock and renders the operation practically bloodless. It also aids very materially in elevating the perichondrium from the cartilage so that the dissection of the mucous membrane and perichondrium is quite easy.

I use only 5 minims of epinephrin solution in the injection because this amount does not exceed the physiologic dose by hypodermatic injection, and experience has proved to me that this amount will render the field bloodless without producing toxic symptoms.

40 East Forty-First Street.

The Cost of Pasteurizing Milk.—In Bulletin 85 of the Department of Agriculture it is estimated that the cost of pasteurizing with a properly operated plant averages for milk 0.00313 cents a gallon and for cream 0.00634 cents. Tests also show that the "flash" process, by which milk is raised to 165 F. and kept there for a moment only is more expensive than the "holder" process, by which milk is held at the temperature of from 135 to 145 F. for thirty minutes. The "holder" process has been found to require 17 per cent. less heat than the "flash" method, and there is also a saving in the expense of cooling. For hygienic reasons also, the "holder" process is to be recommended. An item of economy in the pasteurization of milk is the utilization of exhaust steam from engines and steam-driven auxiliaries. An arrangement by which the pasteurized milk is made to assist in heating up the raw milk may aid the economy of the process.

Therapeutics

SOME OVERLOOKED CAUSES OF CHRONIC ILLNESS

(*Continued from page 1638*)

CHRONIC DYSPEPSIA

Before a condition is termed dyspepsia, nervous dyspepsia, chronic gastritis, or intestinal indigestion, although any one of these conditions may be present, we should most carefully seek the cause. This large subject is referred to only to present some of the frequently overlooked causes of chronic indigestion; we should never be satisfied with any one of these diagnoses.

Frequent causes of these digestive disturbances are reflexes from eye-strain, or from the appendix, ulcer of the stomach or duodenum, reflexes from the gallbladder and a loose kidney. The frequency of these etiologic factors perhaps is in the order named. Ptosis of the abdominal organs is more or less readily determined, and need not be here considered. Also, it is not necessary to refer to the classic symptoms of any of the above-mentioned causes of indigestion, but it is urged that clinicians should never be satisfied to say that the condition is one of gastric hyperacidity, or that there is insufficiency of hydrochloric acid in the stomach, or that a patient has recurrent "bilious" attacks.

Chronic appendicitis, or, perhaps as frequently, pericolitis with adhesions around the colon in the region of the appendix, generally caused by a previous appendicitis, can give reflex pain referred to the cap of the duodenum, and can cause hyperacidity and dyspepsia, which may sooner or later cause epigastric tenderness and symptoms of disturbance in the upper abdomen. A chronic irritation of the appendix may cause only gastric flatulence. Sometimes the region of the appendix will be found entirely insensitive, but we should make repeated abdominal examinations of a patient who has indigestion and is not benefited by the ordinary corrections of diet and simple medicinal treatment. Also, we should urge that whenever the patient has an attack of pain he should be examined at once by his physician, and very often distinct, positive trouble will be found localized near the appendix.

On the other hand, prolonged irritation in the abdomen may allow ulcer of the stomach or duodenum to develop through the irritation of the mucous membrane of the stomach and destruction of the protective mucus, which results from the protracted hyperacidity. It seems to be a fact that hyperacidity of the stomach is a preliminary stage of gastric ulcer, and likewise of ulcer of the upper part of the duodenum. One factor in the cause of ulcer of the stomach seems to be the absence of normal mucus protection, and anything which will cause the mucus coating of the stomach to become normal tends to prevent erosion. We can readily understand this when we note the irritation that occurs in a dry throat, larynx or trachea; anything that tends to increase the mucus in these regions cures the condition. We should, therefore, recognize a preulceration stage of gastric or duodenal ulcer, in which there is likely to be hyperacidity; the cause may be great debility, mistakes in eating, or a chronic appendicitis. The immediate treatment of such a condition by proper diet and improving the general con-

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dition of the patient, with the removal of an irritating factor, if such be found, may prevent ulcer.

A few suggestive points of diagnosis may not be out of place. In chronic appendicitis or pericolitis there is generally (but not always) tenderness, if not pain, referred to the appendix region, also flatulence, gastric and intestinal, and constipation. There is rarely much tenderness in the epigastric region, certainly not acute. The appetite is generally poor, the tongue coated. Taking food and liquids into the stomach does not ameliorate and may increase the discomfort, which is usually not true of ulcer of the stomach. The position of the body does not change the character of the pain, distress and irritation.

Some of the symptoms of ulcer of the stomach generally present are: pain, often relieved or aggravated by a change in position, usually relieved by eating, unless the food is irritant; irregular appetite; tenderness on palpation; constipation, hyperacidity, and red tongue, unless there is gastric retention. Vomiting and bleeding are not constant, and both may be absent. If frequent projectile vomiting is present, or blood is vomited or frequently appears in the stools, of course the diagnosis becomes more positive. Pain from ulcer of the stomach is readily soothed by bland food, and especially by milk of magnesia. This is not true of referred appendix pain or of ulcer of the duodenum, although milk of magnesia (magna magnesiae, N. F.) may stop the pain promptly in the latter condition.

In ulcer of the duodenum the pain is likely to occur three hours or more after eating, and often awakes the patient in the night. The appetite is generally good; the tongue somewhat coated; the tenderness is rather distinctly localized; the bowels are irregular, sometimes loose, sometimes constipated, and the pain is more intermittent and not so constant as in ulcer of the stomach.

It is not necessary to refer to the classic signs of gall-stones or gall-bladder disturbances. The importance of examining the stomach contents, also the feces for occult blood, and taking roentgenograms after a bismuth meal need not be emphasized, but sometimes all kinds of examinations will still leave the diagnosis uncertain until the abdomen is opened.

It has lately been urged that in the diagnosis of gastro-intestinal disturbances we have not given sufficient importance to the determination of indican in the urine. It is asserted that all anatomic lesions of the gastro-intestinal tract will show continued indicanuria. On the other hand, a functional indicanuria may be prevented by free catharsis and regulation of the diet, and especially by several washings of the colon. If indican is repeatedly present after good catharsis and several days of a simple diet, some lesion in the abdomen should be strongly suspected.

FLOATING KIDNEY

The symptoms caused by a loose kidney vary from none to those of serious indigestion, and those produced by pressure in different parts of the abdomen or caused by the kidney dragging on its ligaments. A properly fitting abdominal bandage, with or without a kidney pad, may entirely remove all signs of trouble, and such a bandage may really be a properly made corset, as the majority of loose kidneys occur in women.

As the right kidney is most frequently the one that is loose, the symptoms sometimes simulate gall-bladder disturbance or appendicitis, and a wrong diagnosis of the condition is often made.

Because a patient has a loose kidney, operative procedures to replace it are not necessarily indicated. On the other hand, such an operation not infrequently becomes the only means of curing the reflexes caused by such a kidney or the colics and dangers resulting from the twisting of the kidney on its pedicle.

This condition is referred to because such a kidney is so elusive and a diagnosis of this cause of the abdominal disturbance is often very difficult to make. An abdomen may be repeatedly examined and a loose kidney not discovered, while at a subsequent examination a kidney that can be depressed to the brim of the pelvis may be found.

The amount of gas in the intestine at various times may determine whether the kidney will stay in place or whether it will drop to the length that its loose ligaments allow. It is a fact, however, that without making an examination when the patient is standing, another when the patient is lying down and another after the patient has taken some rapid, deep breaths or has done some jumping (and even then there must at times be repeated examinations), it cannot positively be determined that a kidney is not loose and is not a cause of the abdominal symptoms.

PLEURISY

Pleurisy with effusion is perhaps often overlooked. Those who examine patients for entrance to tuberculosis sanatoriums understand this fact more fully than those who are not called on to note the previous history of many cases of pulmonary tuberculosis. The inflammation may be so insidious that a physician is not called before the effusion is present. The effusion may not be large, and the transmission of the voice and respiratory sounds may be so distinct that the condition is supposed to be that of a consolidated lung. Or, if on the right side, and the effusion is small, the liver may be thought to be enlarged. On the left side the condition may be taken to be an enlarged spleen. The mistaken diagnosis is serious, because pleurisy with effusion is so generally tuberculous in origin, and if adhesions are formed when the fluid remains in the pleural cavity the lung will never again expand to its proper size, and tuberculosis of the lungs readily begins. It is suggested in such cases that a long hypodermic or exploratory needle, or an aspirating needle be inserted. The simplest kind of aseptic technic will preclude any harm; and many times, in doubtful cases, we cannot make a diagnosis of the condition without such a practical test.

CERVICAL OR FALSE RIB

Some recurrent neck, shoulder and arm neuralgias, which are benefited only to recur again, may be due to this condition. Careful examination of the neck and roentgenograms may show that such a rib is pressing on a nerve trunk. Such a bone growth may also cause either disturbance in the subclavian artery, or muscle pains or contractions in the neck. Such possible causes of disturbances in the neck and shoulder region should not be forgotten. They are said to be more frequent in women than in men, and when present are bilateral in about 70 per cent. of the cases. The growth generally occurs from the transverse process of the sixth or seventh cervical vertebra.

(To be continued)

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SOME NEWER ASPECTS OF ACIDOSIS

The modern physicochemical study of the blood has clearly shown that the reaction of this fluid undergoes comparatively little, if any, change even under conditions approaching extreme acidosis. From this point of view the blood and tissue fluids maintain an unvarying alkaline reaction or neutrality. These terms may be used interchangeably for an alkalinity which is actually so slight.

The foregoing statements, which are everywhere accepted in scientific circles, have been the occasion for not a little confusion in the minds of those who were trained in the older school of chemistry and have not fully succeeded in grasping the importance of modern physicochemical conceptions. The physical chemist measures the reaction of a fluid by the balance between the hydrogen and hydroxyl ions which it contains. Examined by this standard, the blood has an extremely low concentration of hydroxyl ions; indeed, it is scarcely more alkaline than distilled water. It is this low hydroxyl ion concentration which varies so slightly even under extreme pathologic conditions. On the other hand, there is an excess of replaceable bases over acids in the blood; and the reaction of this fluid was formerly expressed in terms of its behavior toward indicators and its ability to neutralize acids. In this sense the blood is definitely alkaline toward the majority of indicators, and it has therefore commonly been spoken of as an alkaline fluid. This behavior of the blood with indicators toward acids and bases has been termed its "titratable alkalinity," in contrast with its hydrogen ion concentration, or reaction in the physicochemical sense.

With the advent of the newer ideas and the demonstration of admirable regulatory functions by which the physicochemical reaction of the blood was maintained unchanged despite great variations in the contribution or abstraction of acid and basic radicals, doubt began to be expressed regarding the validity of the older ideas and procedures. It was suggested that the "titration" of the blood must be abandoned as a method of study, and that, primarily, in the urine is shown the result of the prompt adjustment occurring in acidosis. For, obviously, if in this excretion the proportion of acids and alkalies formed in metabolism or otherwise introduced is such as to maintain a constant neutrality in the organism, this excretion would seem to offer the best opportunity for the detection of changed relations.

Dr. Sellards[1] of the Johns Hopkins Hospital has come to the rescue of the older scheme of estimating titratable alkalinity in the blood and has shown the value which this procedure may have from a clinical point of view. The outcome of his studies shows that changes occur which give rise to distinct qualitative differences in the reaction of normal and pathologic serums to phenolphthalein. Conditions are readily obtained under which blood-serum, during an acidosis, is neutral or acid, whereas under the same conditions all normal serums are strongly alkaline. Definite changes in the titratable alkalinity occur in experimental and spontaneous acidosis, in certain nephropathies, and in some anemias. The method also affords information of value in the differentiation of certain obscure comas. Cases of diabetes occur in which the excretion of ammonia and of acetone and related bodies is normal, but the titratable alkalinity of the blood is decreased and the tolerance to bases is increased. This affords proof of a definite impoverishment in bases in these cases.

The titratable alkalinity is of important biologic significance, while the available evidence indicates that the physicochemical reaction of the blood is maintained at a fairly constant value, even in outspoken grades of acidosis. The parallelism between the diminution in titratable alkalinity and the increase in tolerance to fixed bases in diabetes and in the nephropathies affords crucial evidence that the increase in tolerance is practically due altogether to a deficit in the body alkalies or alkali-yielding substances.

THE GROWTH AND COLOR CHANGES OF HAIR

The attempt to find an illuminating account of the factors which may modify or determine the growth of hair will usually be a vain one. The older writers, who did not always hesitate to make dogmatic statements when they were required to produce a finished account, sometimes discussed the subject with considerable freedom. Not so the modern scientific author, who realizes that every sentence from his pen is likely to be subjected to the scrutiny and criticism of some one who has studied the topic at first hand. The general descriptions of the processes of growth have been satisfactory with respect to their histology. The hair follicle and its papilla, the proliferation of the cells on its surface, the development of keratin — all of the

1. Sellards, A. W.: A Clinical Method for Studying Titratable Alkalinity of the Blood and Its Application to Acidosis, Johns Hopkins Hosp. Bull., 1914, xxv, 101.

facts concerning these processes are permanent acquisitions of physiology, but they do not commonly rise to the level of practical problems. Why does or does not the hair grow in certain regions in certain individuals? What are the conditions contributory to growth? How are the natural changes in color brought about and what determines them? The physician is frequently asked such questions as these, and for a convincing answer to them he will search with little success.

Experimental studies in this field cannot readily be conducted on man. Certain facts are, of course, matters of common observation. The beard grows anew after shaving, and this tonsorial practice is believed to stimulate the growth of the hair. Precisely why it does, is not clear; though the stimulus which shaving applies to the skin is said to produce a reaction favorable to improved local circulation and nutrition of the areas involved. For the same reason, that is, increased cutaneous activity as shown by the sweat-glands and neighboring structures, the beard is said to grow more rapidly in summer.

Surgeons sometimes observe an unexpectedly intensive growth of the hairs in the immediate vicinity of suppurating wounds or in parts exposed to hot-air treatment. This may be interpreted as the outcome of the unusual hyperemia of the regions involved. Evidence of the probable accuracy of this view has been offered by the Greifswald surgeon, Georg Schöne,[1] in experiments with white mice. When pieces of the hair-covered skin were removed from the region of the back and again transplanted thereon, many of the hair follicles were noticed to atrophy at first; but presently an abnormally rapid and intense growth of hair ensued. This was especially conspicuous at the edges of the wounds. The active metabolism in the region of the healing and regenerating tissues is assumed to account for the result.

If the pigment which produces the natural color of the hair is lacking, the hairs present a gray or white appearance. The silvery color may further be due to the presence of more or less air in the hair. To account for the blanching of the hair — the familiar accompaniment of old age and a phenomenon which frequently begins long before middle life is fairly concluded—various views have been set forth at different times. The silvery gray appearance which is seen in aging persons is doubtless characterized to some extent by the occurrence of larger numbers of air cavities, and not by the destruction of the pigment as has frequently been postulated. For the hair pigment is among the most resistant of organic substances and can be destroyed only by the most vigorous chemical treatment. Destruction of the pigment—in distinction from the artificial coloring or staining of the pigment — is scarcely conceivable without decomposition of the hair itself. Dry hairs contain more air and therefore will appear somewhat lighter in color than moist ones; but black hair may be dried to the utmost without becoming white, and the hairs of mummies dried through the centuries still show their pigment precisely as do fresh hairs.

Some years ago Metchnikoff of the Pasteur Institute in Paris propounded a different theory of the mechanism by which black hair turns white.[2] According to him, the hairs are invaded at certain times by special phagocytic cells. These "chromophages" find their way to the pigment, which they engulf and carry with them in their exit from the hair. This view has, however, never been seriously accepted by those who have made first-hand studies of the subject.[3]

The true explanation of the familiar color-changes of the hair is probably to be found, not in a destruction of pigment already present, not in any bleaching of hairs already formed, but rather in a complete renewal of the hair. Pigmented hairs fall out and are replaced by unpigmented or white ones. The appearance of gray or white hair is therefore attributable to the formation of a new hair coat rather than by the alteration of the old one. Completed pigmented hairs never turn gray; they fall out. It is nevertheless observed that the process of pigment formation may cease during the development of a hair. In that event the tip will remain pigmented though the base appears white.

How are we to harmonize these statements, it may be asked, with the many published records of hair having turned white suddenly as the presumable consequence of fright or other profound emotion? A careful study of the reputed instances has invariably shown that they were mythical.[4] It is popularly related that Marie Antoinette grew gray during the night after she was condemned to be executed. It is true that at her death her hair was gray; but her biographers all record that her hair had been gray long before the time of her death. This may serve to illustrate the value of hearsay evidence and popular tradition.

The conspicuous changes which the color of the fur of certain species of animals undergoes at different seasons of the year, becoming white in the winter months, affords an opportunity of investigating this pronounced transformation seemingly so closely related to what is seen in advancing age in man. The studies of Schwalbe[5] have demonstrated that here too there is no alteration of the color of the summer fur. The dark hairs fall out as the season advances and white hairs grow in their place. No sudden mutations are found when accurate observations are instituted.

1. Schöne, G.: Beobachtungen über das Wachstum der Haare, Die Naturwissenschaften, 1914, ii, 388.

2. Metchnikoff, E.: Etude sur la vieillesse, I. Sur le blanchissement des cheveux et des poils, Ann. de l'Inst. Pasteur, 1901, xv, 865.

3. Stieda, L.: Untersuchungen über die Haare des Menschen, Merkel and Bonnett's Anat. Hefte, 1910, xl, 287.

4. Stieda, L.: Das Haarpigment und das Ergrauen, Wien. med. Wchnschr., March 26, 1910, p. 738; Ist plötzliches Ergrauen des Haupthaares möglich? Deutsch. med. Wchnschr., Aug. 11, 1910, p. 1484.

5. Schwalbe: Ueber den Farbenwechsel winterweisser Tiere, Ein Beitrag zur Lehre vom Haarwechsel und zur Frage nach der Herkunft des Haarpigmentes, Morphol. Arb., 1894, iii.

CARBON MONOXID AND CANARIES IN MINES

The usefulness of small animals in the detection of air vitiated by poisonous gases in mines has been well established. Their value has been attested not only in connection with possibilities of danger from this source in the ordinary processes of subterranean mining operations, but also in the rescue work which calls for the greatest of care and precaution to prevent harmful consequences to those engaged in it. Carbon monoxid, the most toxic of the mine gases, is always produced in mines in some quantity by the use of explosives in blasting. When large shots are fired, where the ventilation is poor, and the working-faces are too far ahead of the last break-through, harmful percentages of carbon monoxid and other poisonous gases may be encountered. Miners at some mines frequently go home sick from powder smoke. The latter has been reported to contain as high as 4 per cent. of carbon monoxid and the products of the explosion of guncotton are reputed to contain many times this proportion.[1] Carbon monoxid is the constituent of after-damp most insidious in its action, most difficult to detect, and responsible for most of the deaths caused by mine explosions. For these reasons it becomes highly desirable to have a practical and sensitive indicator of quantities of carbon monoxid which may be in even the slightest degree harmful to man.

The United States Bureau of Mines has of late undertaken an elaborate investigation to determine the relative usefulness or unsuitability of various readily available animals.[2] The problem here involved is not a new one. Small animals have been employed practically in connection with mine operations in England and presumably on the Continent also, for some time. The bureau has found canaries and mice to be suitable for the purposes here outlined, the birds being the more sensitive of the two species. They are, furthermore, easily obtainable and become pets of the men who have them. One of the new questions to be tested was whether canaries can be used repeatedly in exploration work without becoming less useful as indicators of carbon monoxid; that is, whether they become more or less susceptible to the poison after several or many exposures. Furthermore, it has been desirable to compare the relative behavior of men and small animals to carbon monoxid.

There is no complete agreement among the different investigators as to the comparative sensitiveness of canaries and men to the poisonous gas here under discussion. This need not entirely militate against the usefulness of the animals; for they undoubtedly give ample warning of percentages of carbon monoxid immediately dangerous to men. In defining the minimum harmful or poisonous concentration of the gas, Haldane states that 0.05 per cent. in pure air is just sufficient to produce in time very slight symptoms in man, and the same percentage produces very slight symptoms in mice. He states that 0.2 per cent. is very dangerous to man. According to the investigators of the Bureau of Mines, when the proportion of carbon monoxid is 0.15 per cent. canaries will show distress usually in from five to twelve minutes. With 0.2 per cent. of the gas it is apparent in from two to six minutes. With these percentages much longer time is required before distress appears in men, although in the case of some persons the effects, when they do appear, may last for hours. Men cannot stand the exposure to collapse from carbon monoxid as animals can. After distress and collapse canaries and mice recover quickly if given fresh air. In man, recovery is often a matter of days; and long-standing after-effects are by no means rare in the case of an intoxication like this which may deprive the hypersensitive nervous system of its proper oxygen supply for undue periods.

From the fact that certain individuals are able to withstand atmospheres that cause distress in other members of a group, it is sometimes concluded that some persons have an idiosyncrasy to the gas. This is always at best the explanation of last resource. It must be kept in mind that after-damp in different parts of a mine (in some places quite close together) will differ in composition to the extent—where the toxic dose is so small—that at one place an insignificant amount of carbon monoxid may be present while at another place, near by, a harmful proportion may exist. One person of a party unknowingly may encounter the latter atmosphere while his comrades do not. The quantity of the poisonous gas absorbed depends, furthermore, on the air breathed. Moderate exertion may increase the volume intake per minute to several times the normal at rest. It follows, therefore, that if certain members of an exploring party work harder than others they will become poisoned more quickly than the less active members.

It is also occasionally found that men may feel distress, especially if they work hard, in the presence of 0.1 per cent. or under of carbon monoxid, when animals at rest in their cages do not distinctly show it. Sometimes different animals of the same species appear to be affected differently by the same proportion of the gas; hence more than one should be used at a time. Fortunately, no acclimatization of canaries appears to occur under the conditions surrounding recovery work in mines, so that these birds do not become less useful or a possible source of danger. They respond promptly to alternate intoxication and resuscitation; whereas guinea-pigs, for example, appear to become somewhat immune. Those who appreciate the seriousness of such situations will realize the advantage of being able by means of animals to define the danger-zone in mines.

1. Kunkel, A. J.: Handbuch der Toxikologie, p. 326.
2. Burrell, C. A., and Seibert, F. M.: Experiments with Small Animals and Carbon Monoxide, Jour. Industrial and Engineering Chem., 1914, vi, 241.

THE DEATH-RATE FOR 1913

According to a bulletin of the Bureau of the Census, the death-rate of the registration area of the United States for 1913 was 14.1 per thousand estimated population. In 1912 it was 13.9, in 1911, 14.2. For the years from 1901 to 1905 the average was 16.2; from 1906 to 1910 it was 15.1. We are therefore continuing in improvement, the average for 1911, 1912 and 1913 being 14.06. These are the exact figures as stated in the report of the census bureau. What they mean in actual lives is not indicated except by closer analysis. The decrease from 16.2, the average from 1901 to 1905, to 14.1, the average for 1913, amounts to 13 per cent., or a reduction of one death in every eight. If the same rate had prevailed in 1913 as in the period from 1901 to 1905, there would have been 1,025,446 deaths recorded instead of 890,823, an excess of 134,623.

The largest percentage of decrease was shown for Rhode Island (15.7), followed by New York (12.3), New Jersey (11.2) and Massachusetts (9.6). It seems to be only a peculiar coincidence that these leaders should all be in one small section of the entire territory discussed. Slight increases which occurred in some states (Michigan, 4.5; New Hampshire, 3, and Indiana, 0.8) are believed to be due in some cases to increased accuracy of registration. The state with the lowest death-rate is Washington, with 8.5 deaths per thousand population; and then in the following order come Minnesota, 10.4; Utah, 11.0, and Wisconsin and Colorado, 11.5. The doubtful honor of possessing the highest rates falls to New Hampshire with 17.1; North Carolina, 16.8; Maryland, 16.2; Vermont, 15.8; Maine, 15.3, and Connecticut, Massachusetts, New York and Rhode Island, 15.0. It seems that in the New England states there occurred most of the higher death-rates and most of the improvement from previous years.

It is significant that the four states in the registration area which have a colored population of over 10 per cent., Kentucky, Maryland, North Carolina and Virginia, should average 15.0, while a group with equal population but fewer colored, Wisconsin, Washington, Vermont and Minnesota, averages 11.5.

Among cities of over 100,000 population, Seattle and Spokane lead by far with death-rates of only 8.4 and 8.9, respectively. Portland, Ore., follows with a rate of 9.5, so that this particular corner of the United States by comparison would seem to be more than holding its own. It seems almost obvious that location, climate and character of population are responsible for this low rate. Minneapolis and St. Paul as usual contest for next place with 11.6 and 11, Oakland and Milwaukee following with 12.5 and 12.7. The highest rates occur in Memphis, Tenn., 20.8; Richmond, Va., 20.4; New Orleans, 19.9; Albany, N. Y., 19.8; Baltimore, 18.5; Nashville, Tenn., 17.8; Birmingham, Ala, 17.4; Atlanta, Ga., 17.4, and Washington, D. C., 17.3.

The cause of this high rate in Southern cities has probably often been mentioned and often explained, but we cannot too often point the way to betterment. In the accompanying table, the significant figures need no explanation.

	Death-Rate per 1,000 Population			Increase (+) or Decrease (—) per cent. 1913 as compared with average 1901-1905		
	Total	White	Colored	Total	White	Colored
Memphis	20.8	15.9	28.2	+ 7.2	— 3.6	+23.1
Richmond	20.4	16.7	26.8	—12.8	— 9.7	—15.5
New Orleans ...	19.9	15.6	31.9	—11.2	—18.8	+ 2.9
Baltimore	18.5	16.2	31.0	— 7.5	— 9.0	— 3.1
Nashville	17.8	14.7	24.0	—17.2	—13.5	—18.9
Birmingham	17.4	12.3	25.2	.....	.....	.....
Atlanta	17.4	13.5	25.2	—17.5	—16.2	—14.9
Washington	17.3	14.4	24.4	—15.6	—12.7	—17.3
Average	18.68	14.9	27.08	.....	.....	.....

The arraignment is a startling one, but when comparison is made with previous years, a basis is obtained for hope that progress now started will continue, and much is being done. It is to be noted that in only two instances did the colored rate increase. Recently a conference was held at the call of the Louisiana State Board of Health to consider betterment of hygiene among negroes.[1] Five states and the District of Columbia sent delegates. Eight of the leading negroes of the South were present. Progress has been made and sincere workers are adding impetus to the beginning steps. Another decade should see a more reasonable balance between the rates accorded to the two races.

THE STREPTOCOCCI IN MILK

Living organisms, both great and small, are usually associated with a definite habitat. Conditions of transference arise, however, whereby a species peculiar to a given locality is carried to another place. We can often identify the strangers by observing their behavior and comparing it with the deportment of other known organisms. If, perchance, the characteristics of the invaders become altered through adaptation to the new environment, it is not always easy to identify them.

The bacteria found in milk are indeed a heterogeneous collection, and the true types of milk bacteria are to be sought at the sources of contamination. The fact that certain organisms are frequently found in milk does not necessarily mean that they originate in the udder, but rather directs the search toward the focus of infection from which they find their way into the secretion of the mammary gland. It is known that while the colon group is frequently found in water and milk, its natural habitat is the intestinal tract of warm-blooded animals. The experts of the Dairy Division of the Bureau of Animal Industry in

1. Conference on Betterment of Hygiene among Negroes, Medical News THE JOURNAL A. M. A., May 2, 1914, p. 1410.

Washington have been investigating the sources from which the streptococci may gain entrance into milk.[1] The foremost possibilities are: contamination with feces, which must always be considered as a possible source of bacteria in milk, which would undoubtedly include members of the lactic-acid group; the presence, in the herd producing the milk, of one or more cows with infected udders; the mouth, which is known to contain streptococci. The habit of licking the flanks and udder provides a more or less direct connection between the mouth of the cow and the milk-pail.

If it can be accomplished, the hygienic significance of the identification of the bacteria in milk with the species or types constantly found in some of these different sources of contamination must be obvious. Accordingly, the government investigators collected representative cultures of streptococci from milk, bovine feces, the mouths of cows and their udders, and compared the bacteriologic characteristics of these related organisms with each other and with those isolated from milk. In view of the extreme variability of these organisms, such a comparison is anything but easy. Indeed, it was found that the morphology varied with varying conditions and could not be correlated with the source of the culture. On the basis of physiologic manifestations, however, some suggestions were forthcoming. When the milk-cultures were considered individually, it was found that with the exception of two which clearly came from feces, they could be included in one or the other of two groups into which the udder cultures were divided.

Current Comment

THE BIOCHEMISTRY OF BACTERIA

Bacteria are known to resemble other organized forms of cellular protoplasm in a very general way in respect to the essential chemical compounds that enter into their make-up. It has been ascertained that they contain various proteins, nucleic acid derivatives, carbohydrates, phosphatids (lecithins) and representatives of the group of "lipoids" now designated as sterols, of which cholesterol is a familiar example. Bacteria are classified at present on the basis of their behavior in various mediums and also on their tinctorial properties as shown by the reaction with a few widely used stains. Both of these features of bacterial response are essentially chemical; and the differential staining of the micro-organisms is clearly an expression of the occurrence of some unlike chemical compounds in the bodies of the bacteria. We have hitherto referred to Tamura's demonstration that in certain strains, such as the tubercle bacillus and the *Mycobacterium lacticola*, for example, the acid-fast phenomena are associated with the presence of a characteristic substance, the higher alcohol mykol,[1] in place of the more familiar cholesterol. He has now further demonstrated other chemical differences between unlike forms of bacteria, namely, the two species already mentioned and the bacillus of diphtheria, which is biologically and morphologically quite distinct from them.[2] The diphtheria organisms are not "acid-fasts," and accordingly mykol was not found in them. They differ also from the tubercle bacilli and the *Mycobacterium lacticola* with respect to the character of the phosphatids which they yield and in the solubilities of their protein components. The amino-acid units of the latter also show variations, the proteins of the bacillus of diphtheria being, by comparison with others, rich in tyrosin and poor in phenylalanin. In all of the three species investigated, however, the Gram-staining seems to depend on the presence of lipoid substances. Such facts represent a further advance toward a comprehensive knowledge of the structural biochemistry of bacteria.

NULLIFICATION BY AMENDMENT

In spite of the fact that legislation restricting the practice of medicine to those showing adequate training and qualifications can be justified only on the ground of public good, each year, in practically every state in which the legislature meets, the medical practice act of that state is subject to attack from some source. Thus each year it is necessary for those interested in the maintenance of high educational standards to resist the assaults made on the law. One who has watched the course of legislation throughout the country for a number of years is led to wonder why a law clearly in the interest of the public must each year be defended from attack by those interested in breaking down its restrictions. In spite of the agitation against such laws under the pretext that the individual should be allowed "free choice of doctors," it is significant that the attacks on medical practice acts are always inspired and led by those who wish to treat the sick for compensation and not by those who wish the privilege of selecting some unqualified practitioner as an attendant. Another significant fact is that no matter how carefully drawn or how diligently guarded after its passage a medical practice law may be, it is eventually nullified, either partially or completely, by the passage of an amendment or the rendering of a judicial decision modifying the definitions or introducing such exemptions as will make it possible for untrained and unqualified persons to perform, under the authority of the law, the very acts which the law itself was intended to prohibit. This nullification process has occurred repeatedly in different states. No better example of it has recently been observed than the recent amendment of the Massachusetts medical practice act, which resulted in the adoption of the following amendment: "Nothing in this act shall be held to apply to registered pharmacists, registered

1. Rogers, L. A., and Dahlberg, A. O.: The Origin of Some of the Streptococci Found in Milk, Jour. Agric. Research, 1914, i, 491.

1. Some Features of Staining Technic, editorial THE JOURNAL A. M. A., Nov. 8, 1913, p. 1724.

2. Tamura, S.: Zur Chemie der Bakterien, III Mitteilung, Ueber die chemische Zusammensetzung der Diphtheriebacillen, Ztschr. f. physiol. Chem., 1914, lxxxix, 289.

dentists or registered optometrists, or to restrain the practice of clairvoyance, hypnotism or mind cure, or to apply to any person who administers to or treats the sick or the suffering by mental or spiritual means without the use of drugs or material remedies." Evidently the belief in Massachusetts in spirits, ghosts and similar superstitions has persisted even since Cotton Mather's day. The legalization by the Massachusetts legislature of the fortune-telling clairvoyants who are being put out of business as swindlers by the police in many of our states is a sad commentary on legislative conditions in a state which was once regarded as the intellectual leader of the nation. Another amendment to the bill defined the practice of medicine so as to restrict it very largely to those claiming to be scientifically educated and qualified physicians. That is, the Massachusetts law has gradually been modified by amendment from a restrictive measure into a definitive law, in which the illegal act consists, not in treating disease without proper qualifications and authority, but in claiming to be what one is not, namely, a legally qualified medical practitioner. Such a definitive law, as has been repeatedly pointed out in THE JOURNAL, has its advantages. It must be clearly recognized by physicians and others interested, however, that a purely definitive law is not restrictive and never can be. The amendment of the Massachusetts act furnishes another interesting chapter in the history of our complicated, contradictory and generally ineffective methods of regulating the practice of medicine by law.

POSSIBLE SOURCES OF ACIDOSIS IN INFANCY

A condition of acidosis in the diseases of early infancy is familiar to the modern pediatrist. It may be relative acidosis due to a deficiency in the supply of alkali at a period when bases are particularly needed to meet the requirements of a growing organism; or the acidosis may be a positive rather than a relative phenomenon and be attributable to a production of undue amounts of acid products which for some reason escape further oxidation or destruction in the economy. In the event of the existence of the latter condition one must call to mind, first of all, those examples of acid compounds that are known to arise under such circumstances. Most familiar are the lower members of the fatty acid series, such as the volatile formic, acetic and butyric acids. We would not imply that these are all uniformly non-metabolizable in the body, for acetic acid and its salts are as a rule readily oxidized. Formic acid, once making its appearance, is not so readily destroyed. To account for the possible origin of such compounds would not be difficult, inasmuch as they frequently represent products of the activity of micro-organisms in the gastro-intestinal canal, which is notably liable to excessive bacterial invasion in the disorders of infancy. So far as these substances escape oxidation they are excreted in the urine. Aron and Franz[1] have examined the urine of numerous sucklings in the Children's Clinic at the University of Breslau, without finding more than merest traces of volatile fatty acids therein. The quantity was not increased by an enrichment of the diet in fats; and even in acute disturbances of nutrition, in dyspepsias and alimentary intoxications, as an accompaniment of which they might have been expected to arise, the results were negative. Another organic acid resistant to metabolic destruction is oxalic acid. It has been realized for some time that this arises as a product of the fermentative decomposition of carbohydrates; and such a mode of origin has been postulated for those cases in which oxaluria could not be explained as the result of the ingestion of food (as rhubarb, spinach, etc.) said to contain considerable preformed oxalic acid.[2] According to Aron and Franz, the urine of infants brought up on such oxalate-free foods as milk and milk mixtures almost invariably contains oxalic acid. This is assumed to have either a fermentative origin in the alimentary canal, or an endogenous one in intermediary metabolism. Additions of cane-sugar or other nutrient carbohydrates to the diet seem to augment somewhat the urinary output of oxalic acid. No increase could be associated, however, with acute nutritive disturbances. The facts, negative and positive, here recorded point to a field for investigation that may yield fruitful suggestion with respect to the etiology of some of the obscure acidoses.

1. Aron, H., and Franz, Marianne: Organische Säuren im Säuglingsharn, Monatsschr. f. Kinderh., 1914, xii, 645.

NEW HOUSES AND HEALTH

New houses are constantly offered for rent in large numbers in the United States and real-estate agents are naturally desirous to fill the houses on their lists with tenants as soon as possible. Probably a little investigation would show the desirability in this country of requiring a certificate that a new house will not endanger the health of its occupants before families are allowed to move into it. Such municipal regulations are proving valuable in England. Toward the close of 1912 the Portsmouth (England) corporation decided that thereafter no new building intended for human habitation in that borough should be occupied until it had been certified as sanitary in every respect. Dr. A. Mearns Fraser[3] says: "The principal evil that it will prevent is the occupation of houses before they have had time to dry." He adds: "I would far sooner live in a house with defective drainage than in a damp house; the results from the latter are more insidious in their onset and more difficult to overcome. Dampness undoubtedly greatly favors the incidence of consumption, bronchitis, rheumatism, heart-disease and diphtheria. Probably children are more susceptible to the ill effects of damp houses than adults." The departments of health of our cities might well take up this question. Probably most American municipalities already have the legal power necessary to require such certificates and the question is only one of making the regulation and establishing the custom.

2. Baldwin, Helen: Jour. Exper. Med., 1900, v, 27.
3. Fraser, A. Mearns: Medical Officer, Feb. 7, 1914.

Medical News

ARKANSAS

Colored Physicians Society Holds Meeting.—The State Association of Negro Physicians held its annual meeting in Little Rock, May 6 and 7, and elected the following officers: president, Dr. Steven W. Harrison, Fort Smith; vice-presidents, Drs. Madison M. McBeth, Plum Bayou; Harold H. Phipps, Hot Springs, and J. E. Swayzer, Arkadelphia; recording secretary, Dr. G. H. Frank Morris, Cotton Plant; corresponding secretary, Dr. Alexander H. Brown, Argenta, and treasurer, Dr. R. J. Meddaugh, Little Rock. Little Rock was selected as the place of the next annual meeting.

State Meeting.—The thirty-eighth annual meeting of the Arkansas Medical Society was held in Eldorado, May 19-21, and the following officers were elected: president, Dr. St. Cloud Cooper, Fort Smith; vice-presidents, Drs. Gus. A. Warren, Black Rock; Robert A. Hilton, Eldorado, and Rufus S. Rice, Rogers; secretary, Dr. Clinton P. Meriwether, Little Rock (reelected); treasurer and editor of *The Journal of the Arkansas Medical Society*, Dr. William R. Bathurst, Little Rock (reelected); councilors, second district, Dr. Lorenzo T. Evans, Barren Fork; fourth district, Dr. Edwin C. McMullin, Pine Bluff; sixth district, Dr. Charles A. Archer, De Queen; eighth district, Dr. William A. Snodgrass, Little Rock; tenth district, Dr. Joseph T. Clegg, Siloam Springs; delegate to the American Medical Association, Dr. Robert Caldwell, Little Rock, and alternate, Dr. Joseph T. Clegg, Siloam Springs. Little Rock was selected as the place of the next meeting in May, 1915. Resolutions were adopted discontinuing the annual banquet at the society meeting, and placing a suitable memorial tablet in the state sanatorium, Booneville, in commemoration of the work of Dr. John L. Shibley, who initiated the crusade against tuberculosis in Arkansas.

FLORIDA

State Association Meeting.—At the forty-first annual meeting of the Florida Medical Association held in Orlando, May 13-15, the following officers were elected: president, Dr. F. Clinton Moor, Tallahassee; vice-presidents, Drs. Calvin D. Christ, Orlando; Thomas Truelson, Tampa, and John A. Simmons, Arcadia; secretary-treasurer, Dr. Graham E. Henson, Jacksonville; librarian, Dr. James D. Pasco, Jacksonville, and delegate to the American Medical Association, Dr. John MacDiar, Deland. Deland was selected as the next place of meeting; and it was decided that the association publish a monthly journal, to stimulate interest in the profession in general, and in the state organization in particular.

ILLINOIS

County Secretaries Elect.—At a meeting of the County Secretaries' Association, held in Decatur, May 19, Dr. Harry F. Bennett, Litchfield, was elected president, Dr. Elizabeth B. Ball, Quincy, vice-president, and Charles W. Carter, Clinton, secretary.

Personal.—Dr. and Mrs. Robert S. Denney, Aurora, sailed for Europe, May 19.——Dr. Thomas J. Whitten, Nokomis, for forty-seven years in practice, has decided to retire, and will reside with his daughter in Peoria.——Dr. Edwin E. Williams, Streator, is reported to be seriously ill.——Dr. Halley A. Smith, a member of the staff of the Rockford Hospital, has entered the Santa Fe System medical service at Topeka.

Failures of 1913 Graduates.—Table "C" published last week in THE JOURNAL, on page 1648, in State Board Statistics, contained a clerical error relating to the 1913 graduates of Bennett Medical College. The table shows correctly that of the 100 "graduates of 1909 to 1913" examined during the year, 14 (14 per cent.) failed. The correct figures show, however, that 54 graduates of 1913 were examined, and of these that 3, or 5.6 per cent., failed.

Hospital Notes.—At an informal meeting of the members of the La Salle-Peru Medical Society held in La Salle, recently, a plan for an isolation hospital on the dividing line between the two cities was discussed, and it is understood that the members went on record as favoring the plan.——Sixty physicians of Peru and vicinity met in Peru, May 7, to inspect the new People's Hospital. After the opening, the visiting physicians were entertained at dinner at the Hotel Peru. The institution is a three-story structure, has been erected at a cost of $90,000, and will accommodate fifty patients.

State Society Meeting.—At the annual meeting of the Illinois State Medical Society, held in Decatur, May 19-21, the following officers were elected: president, Dr. Albert L. Brittin, Athens; president-elect, Dr. Charles W. Lillie, East St. Louis; vice-presidents, Drs. Otto T. Freer, Chicago, and Everett J. Brown, Decatur; secretary, Dr. Wilbur H. Gilmore, Mount Vernon (reelected); treasurer, Dr. A. J. Markley, Belvidere (reelected); councilors, first district, Dr. Emil Windmueller, Woodstock; second district, Dr. Edwin S. Gillespie, Wenona; eighth district, Dr. Elmer B. Cooley, Danville; delegates to the American Medical Association, Drs. Guy L. Armstrong, Taylorville; James W. Hamilton, Mount Vernon; Fernando C. Gale, Pekin; William L. Noble, Chicago; Charles P. Caldwell, Chicago, and Henry F. Lewis, Chicago; alternates, Drs. Alden Alguire, Belvidere; Lay G. Burroughs, Collinsville, Frank Buckmaster, Effingham; Frederick Tice, Chicago, Hugh N. MacKechnie, Chicago, and Duncan R. MacMartin, Chicago. Springfield was selected as the place of meeting for 1915, and the date appointed was May 18-20. At the meeting of the House of Delegates, May 19, a gift of $500 was made to Dr. Edmund W. Weis, Ottawa, for sixteen years secretary of the society.

Chicago

Personal.—Dr. and Mrs. Peter C. Schenkelberger, and Dr. Michael Goldenberg have gone abroad.

Council Provides Funds for Crime Investigation.—The city council at its last session passed an appropriation of $10,000 for the work of a special committee on crime, and $1,200 for the survey of the vice control situation to be made by the health committee.

City to Certify Babies.—Chief Justice Harry Olson of the municipal court proposes that the new psychopathic laboratory shall examine all children taken by foster parents from the morals court, and declare them to be normal before they are allowed to pass from the jurisdiction of the court.

Conference for Care of Subnormal.—A conference of Chicago charity workers to devise plans for the care of subnormal children and adults was held recently in the office of the county board. The conference was called because of the emergency which now exists in Illinois owing to the presence of 6,000 subnormals in Chicago and 18,000 in the state of Illinois, in need of institutional care, while the state institutions have a maximum capacity of 1,800.

Bills will be introduced into the next session of the legislature, and conferences will be held to determine the best legislation to be enacted.

The appointment of committees on legislation, propaganda, and to meet the Illinois state board of administration was decided on, but the members were not named. President A. A. McCormick was appointed chairman of the organization committee, which was made permanent.

INDIANA

Medical Library at Gary.—The members of the Gary County Medical Society are making preparations to start a medical library section in the Gary Public Library.

National Guard Changes.—Maj. John J. Boaz, M.C., Ind.N.G., surgeon in charge of the Field Hospital; Capt. John W. Sluss and Lieut. T. B. Victor Keene, all of Indianapolis, have resigned from the Medical Corps of the Indiana National Guard.

Meningitis in Indianapolis.—Twenty-four cases of cerebrospinal meningitis have been reported since January 1. Twelve cases and three deaths have been reported in May. The City Board of Health has urged the reporting of all cases so that a thorough investigation of each one may be made, and requests the cooperation of all physicians in stamping out the disease. Only nine deaths occurred from cerebrospinal meningitis during the year 1913.

Meat Packer Indicted by Grand Jury.—C. J. Gardner, a meat packer who was fined $500 and costs and sentenced to jail for six months after he was found guilty in police court on the charge of having unwholesome and diseased meat in his possession with intent to sell such meat, has been indicted on a similar charge by the Marion County grand jury. The case in police court involved the carcass of a diseased sheep. It is understood the charges on which the indictment is based involves the carcass of a cow.

Hospital Notes.—The Robert W. Long Hospital, Indianapolis, is almost completed and will be dedicated next month. The building has been erected at a cost of $250,000, exclusive of the site, and will be part of the University of Indiana

School of Medicine, and under the control of the faculty of the school. The hospital is the gift of Mr. and Mrs. Robert W. Long.——The new St. Francis Hospital, Beech Grove, will be dedicated with formal ceremonies June 21. The institution, which has been erected at a cost of $200,000, will accommodate 200 patients and will be conducted by the Sisters of St. Francis.

Personal.—Drs. William Osenbach and Frank L. Truitt were attacked with an axe during a neighborhood quarrel in Indianapolis, May 10.——Dr. Orlando B. Williams, Andrews, who has been seriously ill, is reported to be improving.——Dr. William F. Walsh, Indianapolis, was seriously injured, recently, in a collision between his automobile and a switch engine.——Dr. Algie H. Shock, Silverlake, is reported to be ill with small-pox.——Dr. Earl P. Wagner, South Bend, who has been ill for three weeks, is reported to be convalescent.——Dr. Herschel L. Bass, Ft. Branch, coroner of Gibson County, has resigned and moved to Elberfeld.——Drs. Roscoe L. Sensenich and Stanley A. Clark, South Bend, have been appointed trustees of the County Anti-Tuberculosis Camp.——Dr. Robert W. Harris has been elected president and Dr. Anna I. McKamp, secretary, and Dr. Elihu P. Easley a trustee of the Floyd County Hospital Association. The object of the organization is to promote the erection of a tuberculosis sanatorium on the "knobs" back of New Albany.

IOWA

Personal.—Dr. Bert A. Bowers and family, Granville, have gone abroad.——Dr. Cyrus O. Callison, Albion, was seriously injured by the overturning of his automobile, May 12.——Dr. Thomas E. Powers, Clarinda, is reported to be ill with diphtheria.

Sanatorium News.—Scott County Tuberculosis Sanatorium, Davenport, is nearly completed, and will be ready for occupancy June 15. The buildings have been erected at a cost of $75,000, and the institution will be able to accommodate forty patients.

State Society Meeting.—The annual meeting of the Iowa State Medical Society was held in Sioux City, May 13-15, under the presidency of Dr. Lee W. Dean, Iowa City. The following officers were elected: president, Dr. Henry C. Eschbach, Albia; vice-presidents, Drs. David W. Smouse, Des Moines, and John F. Herrick, Ottumwa; secretary, Dr. James W. Osborn, Des Moines (reelected); treasurer, Dr. William B. Small, Waterloo; editor, Dr. David S. Fairchild, Clinton; councilors: second district, Dr. Henry Albert, Iowa City; third district, Dr. Joseph C. Powers, Hampton; fourth district, Dr. Paul E. Gardner, New Hampton; seventh district, Dr. Corwin W. Cornell, Knoxville; eighth district, Dr. J. Frank Aldrich, Shenandoah; delegates to the American Medical Association, Drs. Lawrence W. Littig, Davenport; Mathew N. Voldeng, Cherokee, and John C. Rockafellow, Des Moines; and alternates, Drs. Walter L. Bierring, Des Moines; Daniel H. Bowen, Waukon, and Charles S. James, Centerville. Waterloo was decided on as the next place of meeting for 1915. The House of Delegates decided to purchase the *Iowa Medical Journal* from Dr. Edward Dorr, Des Moines, for $1,000. This offer includes the exchange, advertising and subscription lists and the good-will of the publication.

MASSACHUSETTS

Testimonial to State Health Officer.—The term of service of Dr. Henry Pickering Walcott, Boston, for thirty-three years health officer and chairman of the State Board of Health, terminated May 19. On the occasion of his retirement, an address was presented to him, signed by 2,200 members of the medical profession of Massachusetts. The address sets forth the public health work done by Dr. Walcott, his establishment of a laboratory for the free production and distribution of diphtheria antitoxin, the establishment through his influence of a laboratory for the preparation of antitoxins and animal vaccines, and the many improvements in sanitary conditions carried out under his recommendation, and other great and grave problems of sanitation and hygiene, and closes with the following eulogium: "You have met the responsibilities which you have assumed with such wisdom, discretion, and rare modesty, as to make the task of your successor who would uphold the standard bequeathed to him, a difficult one indeed."

MICHIGAN

Personal.—Dr. Philip D. Bourland has succeeded Dr J. M. P. Pichette as health officer of Lake Linden.——Dr. William L. Hircik, Whitehall, is reported to be seriously ill with diphtheria.

New Sanitarium.—Dr. Thomas Bennett O'Keefe, Grand Rapids, will build a new sanitarium building, three stories and a basement in height, adjoining the present building at Reed's Lake. The new building will cost $20,000, will accommodate fifty patients, and will be completed in the early autumn.

New Officers.—Southwestern Michigan Medical Society, made up of specialists in diseases of the eye, ear, nose and throat, of Battle Creek, Kalamazoo, Grand Rapids, Lansing and Muskegon, at Battle Creek, May 4: president, Dr. Edward J. Bernstein, Kalamazoo; secretary-treasurer, Dr. Wilfrid Haughey, Battle Creek.

MINNESOTA

Tag-Day in Duluth.—On May 16 the Women of Linnaea Society held a tag-day for the aid of tuberculosis sufferers, as a result of which $1,000 was realized.

Range Physicians Organize.—At a meeting of the physicians of Mesaba Range held in Virginia, May 11, the Range Medical Association was organized, with the following officers: president, Dr. John C. Farmer, McKinley; vice-president, Dr. Charles B. Lenont, Virginia, and secretary, Dr. Henry E. Michelson, Virginia.

MISSISSIPPI

Fever Detains Steamer.—The British steamer *Carisbrook*, from Tela, British Honduras, to Gulfport, with ballast, was detained at the quarantine station, Ship Island, on account of several cases of fever among the crew.

Colored Physicians Hold Meeting.—At the annual meeting of the Colored Medical, Dental and Pharmaceutical Association of Mississippi, held in Jackson, April 29 and 30, Dr. Daniel W. Sherrod, Meridian, was elected president; W. M. P. Harris, Vicksburg, vice-president; Dr. Lemon R. Young, Hattiesburg, secretary; and B. W. Turner, treasurer. Meridian was selected as the next place of meeting.

Pellagra in 1913.—During the first nine months of 1913, according to the report of the State Board of Health, there were 3,734 cases of pellagra reported, of which 1,689 were white and 2,045 colored. The deaths were 544, of which 106 were of whites and 406 colored. This represented 3.6 per cent. of the total deaths, 2.6 per cent. of white deaths and 4.2 colored, a ratio of nearly two to one. During the entire year the deaths were 795. It is believed that more accurate statistics would somewhat increase this figure.

MISSOURI

New State Society Officers.—At the fifty-seventh annual meeting of the Missouri State Medical Association held at Joplin, May 12-14, the following officers were elected: president, Dr. Henry C. Shuttee, Westplains; vice-presidents, Drs. James A. McComb, Lebanon; Godfrey O. Cuppaidge, Moberly; William G. Estill, Lawson; Theodore A. Coffelt, Springfield, and William A. Clark, Jefferson City; secretary and editor, Dr. Edward J. Goodwin, St. Louis (reelected); treasurer, Dr. Franklin Welch, Salisbury (reelected); councilors, sixteenth district, Dr. Harry S. Crawford, Harrisonville; nineteenth district, Dr. Stephen V. Bedford, Jefferson City; twenty-second district, Dr. Garnett S. Cannon, Fornfelt; twenty-sixth district, Dr. William H. Breuer, St. James; twenty-seventh district, Dr. James H. Elliott, Westplains; twenty-eighth district, Dr. Thomas O. Klinger, Springfield; twenty-ninth district, Dr. Robert L. Wills, Neosho; delegates to the American Medical Association, Drs. Enoch H. Miller, Liberty; Andrew W. McAlister, Jr., Kansas City; Henry L. Reid, Charleston; Edward J. Goodwin, St. Louis, and Robert M. Funkhouser, St. Louis. The next meeting will be held in St. Joseph.

NEBRASKA

Personal.—Dr. Samuel K. Spalding, Omaha, has been elected medical director of the Department of Nebraska G. A. R.——Dr. Albert J. Coats, Fairbury, sails for Germany, June 26.

State Society Meeting.—At the annual meeting of the Nebraska State Medical Society in Lincoln, May 12-14, the following officers were elected: president, Dr. John P. Gilligan, O'Neill; vice-presidents, Drs. Leander B. Smith, Fremont, and John I. McGirr, Beatrice; delegate to the American Medical Association, Dr. Artemas I. MacKinnon, Lincoln; and alternate, Dr. Burton W. Christie, Omaha. There was a registration of 300 members at the general session. On April 30, 767 members had paid their 1914 dues leaving over

200 delinquents. A local committee of Lancaster County physicians secured a very suitable convention hall and committee rooms for the meetings. The social features were entertaining, instructive and unexcelled—if ever equaled—at any prior state association convention. By a majority vote of the house an invitation to hold the next annual convention in Hastings, Neb., was accepted.

NEW HAMPSHIRE

State Society Meeting.—The one hundred and twenty-third annual meeting of the New Hampshire Medical Society was held in Concord, May 13-15, under the presidency of Dr. Abram W. Mitchell, Epping. Dr. Charles F. Flanders, Manchester, presided over the medical section, and Dr. John M. Gile, Hanover, over the surgical section. The following officers were elected: president, Dr. Herbert K. Faulkner, Keene; secretary, Dr. Dennis E. Sullivan, Concord (reelected); councilors, Drs. Charles S. Walker, Keene; and Emery M. Fitch, Claremont; trustee, Dr. John M. Gile, Hanover; delegates to the American Medical Association, Dr. Irving A. Watson, Concord, and alternate, Dr. George W. McGregor, Littleton. Drs. John F. Robinson and George S. Foster, Manchester, were recommended to the governor as members of the Regular Board of Medical Examiners.

NEW JERSEY

Atlantic City Number.—The descriptive article on "The Charms of the Convention City" which appeared in the Atlantic City Number of THE JOURNAL was contributed almost wholly by Dr. C. C. Charlton.

New Hospital Directors.—The Camden County Board of Free Holders on May 13 appointed the following to take charge of the new tuberculosis hospital at Ancora: Drs. J. W. Schellenger, Joseph E. Roberts, Jr., Camden, Morgan Solly, Addison B. Reder, Camden, and John I. Hoverton.

Relief Society Election.—The thirty-second annual meeting of the Relief Society for Widows and Orphans of Medical Men of New Jersey was held in Newark, May 13, and the following officers were elected: president, Dr. Edward J. Ill, Newark; vice-president, Dr. Norton L. Wilson, Elizabeth; secretary, Dr. Charles D. Bennett, Newark; treasurer, Dr. Harold A. Tarbell, Newark, and trustees, Drs. Gordon K. Dickinson, Jersey City; Frank M. Child, Hoboken, and Christopher C. Beling, Newark.

NEW YORK

Personal.—Dr. Leverett D. Bristol, Syracuse, has been appointed head of the public health laboratory of the University of North Dakota.——Drs. S. W. Gill Wylie and Adolf Rostenberg have sailed for Europe.

Harrington Lectures.—The Harrington lectures of the Medical Department of the University of Buffalo will be delivered by Prof. Ludwig Pick, Berlin, Germany, on the evening of June 2, and the afternoon of June 2 and 3. The subject of the lectures will be "Some Recent Advances in Pathologic Anatomy." The lecture will be illustrated by lantern-slides and many lumière plates.

Buys Site for Hospital.—It is announced that the Beth Israel Association has made public its plans for the construction of one of the largest private hospitals in the city. The site purchased is on Livingston Place, facing Stuyvesant Square and contains 14,000 square feet. A sixteen story hospital building will be erected at a cost of $1,000,000. The new hospital will provide for 500 patients and will be the last word in hospital construction and equipment.

New York City

Street Accidents in Greater New York.—During the year 1913 in the streets of the Greater City there were 119 persons killed by trolleys, 169 by horse-drawn vehicles and 109 by automobiles.

Vaccination Stations.—The Department of Health has arranged to have small-pox vaccination performed daily in all the children's clinics of the department and also on two days of each week at each infant's milk station. This action will create sixty-two offices of the department where vaccination may be obtained free of charge.

Personal.—Dr. Otto Glogau has been appointed delegate to the Third International Congress on Occupational Diseases, to be held in Vienna in September next.——Dr. and Mrs. William Lintz, Brooklyn, sailed for Europe, May 16.

Hospital Reorganization Urged.—At the fifth annual City Conference of Charities and Corrections, which was in session May 19 and 20, Dr. Sigismund S. Goldwater outlined an improved plan for the hospital service of the city. Dr. Goldwater opposes the expansion of hospitals as health centers, holding that this work is preventive and belongs to the province of the Health Department. He thought that either a large board of trustees, a smaller board, or a single commissioner might satisfactorily administer the city hospitals. Nine ideally organized hospitals distributed among three city departments in groups of three would serve the city better than nine hospitals improperly organized, but under single control. The project to put all hospitals of the city under a new department of hospitals was received with favor by those who had recently made an investigation of the city hospitals for the mayor.

NORTH DAKOTA

Personal.—Dr. George A. Stark, Mandan, is critically ill as a result of a cerebral hemorrhage.——Dr. William H. Witherstine, Grand Forks, has been appointed county coroner, vice Dr. Francis E. Murphy.

Conservation of Vision.—Dr. John H. Rindlaub of Fargo has been selected as lecture bureau manager in connection with the lectures on the conservation of vision provided for under the auspices of the Council on Health and Public Instruction of the American Medical Association. It is hoped to have delivered at least one lecture a year in each county in the state. These lectures will cover the subjects of ophthalmia neonatorum, the medical inspection of schoolchildren, the prevention of eye injuries in shops and factories, proper illumination of schools, halls, trains, etc., the prevention and spread of trachoma and some others. Gonorrhea is a reportable disease in North Dakota.

New Officers of State Society.—At the annual meeting of the North Dakota Medical Association, held in Grand Forks, May 13 and 14, the following officers were elected: president, Dr. R. Hudson Beek, Lakota; vice-presidents, Drs. Victor J. La Rose, Bismarck, and George M. Williamson, Grand Forks; secretary, Dr. Hezekiah J. Rowe, Casselton (reelected); treasurer, Dr. Charles S. Crane, Grand Forks; councilors, Drs. George A. Carpenter, Fargo; Robert D. Campbell, Grand Forks; and Francis R. Smyth, Bismarck; and delegate to the American Medical Association, Dr. Charles S. Crane, Grand Forks, vice Dr. James Grassick, Grand Forks. Bismarck was selected as the next place of meeting. The society recommended the following members to the State Examining Board: Drs. Alexander J. McCannel, Minot; Paul Sorkness, Fargo; and John E. Countryman, Grafton.

OKLAHOMA

Personal.—Dr. Samuel W. Wilson, Lindsay, who has been ill with rheumatism, is said to be improving.——Dr. Dumont D. Howell, Nowata, was thrown from a buggy recently, fracturing his left leg above the ankle.——Dr. James P. McRae, Bromide, has been completely exonerated of blame following the death of B. B. Askew, Bromide, from alleged strychnin poisoning.——Dr. Roy A. Morter, Norman, has been appointed a member of the staff of the Michigan State Hospital, Kalamazoo, and has been assigned to duty in the women's department.——The offices of Drs. David M. and R. L. Montgomery, Marlow, were destroyed by fire recently.

Hospital Notes.—It is announced that a sanatorium for tuberculosis will be opened in Tahlequah in a short time.——The Sisters of Charity at McAlester have purchased the Cornish property, and will open it as a hospital.——Dr. J. Clay Williams has purchased the building of Dr. Elmer E. Lumm, Stroud, and will fit up the upper rooms of the building for a sanatorium, with accommodations for ten patients.——Fire at the Alva Hospital, recently, caused damage to the extent of $500. The patients were removed without casualty.——Work has been commenced on the new Indian hospital at Lawton, which is to cost $40,000. The building will be ready for occupancy this fall.

State Association Meeting.—The twenty-second annual meeting of the Oklahoma State Medical Association was held in Guthrie, May 12-14, under the presidency of Dr. James M. Byrum, Shawnee. The following officers were elected: president, Dr. John W. Riley, Oklahoma City; vice-presidents, Drs. Charles R. Hume, Anadarko, and Edward F. Davis, Oklahoma City; secretary-treasurer and editor, Dr. Claude A. Thompson, Muskogee (reelected); councilors, first district, composed of Cimarron, Texas, Beaver, Harper, Ellis, Woods and Woodward counties, Dr. R. A. Workman, Wood-

ward; second district, composed of Roger Mills, Becham, Washita, Custer, Dewey, Blaine counties, Dr. Ellis Lamb, Clinton; third district, composed of Harmon, Jackson, Greer, Kiowa, Tillman, Comanche and Cotton counties, Dr. Samuel P. Rawls, Altus; fourth district, composed of Alfalfa, Grant, Garfield, Major, Kay and Noble counties, Dr. Walter H. McKenzie, Enid; fifth district, composed of Kingfisher, Logan, Oklahoma and Canadian counties, Dr. Fred Y. Cronk, Guthrie; sixth district, composed of Caddo, Grady, Stephens, McClain, Garvin and Jefferson counties, Dr. Clinton M. Maupin, Waurika; seventh district, composed of Osage, Pawnee, Creek, Okfuskee, Okmulgee and Tulsa counties, Dr. Walter E. Wright, Tulsa; eighth district, composed of Cleveland, Payne, Lincoln, Pottawatomie and Seminole counties, Dr. H. Marion Williams, Wellston; ninth district, composed of Coal, Pontotoc, Murray, Johnston, Marshall, Love and Carter counties, Dr. J. T. Slover, Sulphur; tenth district, composed of Washington, Nowata, Rogers, Mayes, Craig, Ottawa and Delaware counties, Dr. Robert L. Mitchell, Vinita; eleventh district, composed of Wagoner, Muskogee, McIntosh, Cherokee, Adair and Haskell counties, Dr. Pleasant P. Nesbitt, Muskogee; twelfth district, composed of Hughes, Pittsburg, Latimer, Sequoyah and Leflore counties, Dr. Leonard S. Willour, McAlester, and thirteenth district, composed of Atoka, Bryan, Choctaw, Pushmataha and McCurtain counties, Dr. John L. Austin, Durant. Among the changes to the constitution and by-laws adopted at this meeting were the following: Giving the president and secretary a full vote in the Council and House of Delegates; making the term of office of secretary three instead of two years; giving the council authority to establish a physician's defense bureau, the entire assessment for membership and protection not to exceed $5 a year; making the number of councilors subjects to change by the House of Delegates. The next meeting will be held in Bartlesville, and the meeting for 1916 in Medicine Park. The Women's Auxiliary held its seventh annual meeting at Guthrie, May 13 and 14. The chief subjects discussed by the physicians' wives were: "How Can We Best Promote Interest in, and Establish Auxiliaries to the County Societies, and in What Way Can We, as an Organized Body, be of the Greatest Assistance to the Physicians and the Public" and "The Rights of the Physician's Wife."

PENNSYLVANIA

Rules against Hospital Noises.—The supreme court of Pennsylvania, May 19, sustained a decree handed down by the lower court, ordering the operating-room in the Homeopathic Medical and Surgical Hospital of Reading to be removed to another part of the building, as it was shown the noises therefrom were annoying to the neighbors.

Typhoid Due to Coatesville.—Five children of the Embreeville School in Newlin Township, Chester County, developed typhoid within two days, and in tracing the cause of the outbreak it was found that the school water-supply was obtained from a farm, one-eighth of a mile from the schoolhouse. As the water had to be carried, it was thought the boys have been filling the water buckets at the Brandywine Creek. The sewage from Coatesville, where several cases of typhoid have recently existed, is emptied into this stream without treatment. At a conference of the citizens of Coatesville and the state health commissioner in Harrisburg, May 22, regarding a new water-supply, Dr. Samuel G. Dixon, Harrisburg, thereon requested Attorney General Bell to begin suit against the borough of Coatesville under the act of 1905 for failing to file plans of the existing system of sewers and plans for a sewage disposal plant.

Philadelphia

Alumnae to Meet.—The Alumnae Association of the Women's Medical College of Pennsylvania, Philadelphia, will hold its thirty-ninth annual meeting at the college building, North College Avenue and Twenty-First Street, June 4 and 5, under the presidency of Dr. Eleanor C. Jones. The annual reception and dinner will be held June 4 at the Bellevue-Stratford.

TEXAS

No Quarantine Changes.—Governor Colquitt, after conferring with State Health Officer Steiner, announced, May 4, that there would be no change in the quarantine regulations for Galveston, so far as refugees from main points were concerned.

Roentgenologists Organize.—The Texas Roentgen-Ray Association was organized at Houston, May 14, and the following officers were elected: president, Dr. George D. Bond, Fort Worth; vice-president, Dr. William O. Sauermann, Houston; secretary-treasurer, Dr. John W. Torbett, Marlin. The association is to meet each year at the time and place of the state association convention.

Tulane Alumni Meet.—The alumni of Tulane University, in attendance on the convention of the State Medical Association of Texas, held a meeting and banquet, May 13. Dr. Charles C. Green, Houston, was toastmaster, and the following officers were elected: president, Dr. William M. Brumby, San Antonio; vice-president, Dr. Charles C. Green, Houston; and secretary-treasurer, Dr. M. M. Brown, Mexia.

State Association Meeting.—At the forty-eighth annual meeting of the State Medical Association of Texas, held in Houston, May 12-14, the following officers were elected: president, Dr. Frank D. Boyd, Fort Worth; vice-presidents, Drs. Granville T. Hall, Big Springs; Leopold H. Reeves, Decatur, and Khleber H. Beall, Fort Worth; councilors, second district, Dr. Newton J. Phenix, Colorado (reelected); seventh district, Dr. Thomas J. Bennett, Austin (reelected); eighth district, Dr. Walter Shropshire, Yoakum, (reelected); ninth district, Dr. W. Wallace Ralston, Houston (reelected); tenth district, Dr. Arthur R. Sholars; fourteenth district, Dr. Alva W. Carnes, Hutchins; trustee, Dr. R. R. White, Temple, to succeed Dr. John S. Lankford, San Antonio, term expired; delegates to the American Medical Association, Dr. Charles E. Cantrell, Greenville, and Marvin L. Graves, Galveston; alternates, Drs. Witten B. Russ, San Antonio, and Albert Woldert, Tyler. Fort Worth was selected as the next place of meeting.——A Council on Medical Defense, for the purpose of investigating and defending all damage suits against members of the profession, was created by the House of Delegates, May 13.——A resolution was introduced providing that the president appoint a committee to look into the question of providing for indigent members of the association, with a view to establishing a home for such members.——A resolution was introduced providing for the appointment of a committee to formulate a list of drugs which should not be sold except on prescription of a physician was adopted.——A resolution was introduced by Dr. Joseph E. Dildy, Lampasas, providing for the recommendation of the enactment of a law to protect children of the state from disease, by medical inspection of schoolchildren and such other means as may be decided on.——On May 12 memorial exercises were held by the association in honor of members who had died during the last year.

WEST VIRGINIA

Personal.—Dr. Edgar B. Plant has been appointed physician of Ohio County.——Dr. A. Maywood Forsythe, Maynard, who has been seriously ill with pneumonia, is reported to be improving.

Anti-Tuberculosis League Organized.—The Anti-Tuberculosis League of Kanawha County has been incorporated at Charleston by George S. Laidley, F. M. Staunton, Louise F. Jackson, Ethel Ruffner and Virginia A. Payne.

State Society Meeting.—The annual meeting of the West Virginia Medical Society was held in Bluefield, May 13-15, and the following officers were elected: president, Dr. Henry P. Linsz, Wheeling; vice-presidents, Drs. Joseph B. Kirk, Elkhorn, Theodore K. Oates, Martinsburg, and Isaac N. Houston, Moundsville; secretary, Dr. J. Howard Anderson, Marytown; and treasurer, Dr. Hugh G. Nicholson, Charleston; and delegate to the American Medical Association, Dr. Frank L. Hupp, Wheeling. Huntington was selected as the next place of meeting.

WISCONSIN

Personal.—Dr. Albert Jenner, Milwaukee, has sailed for Europe.——Dr. and Mrs. Edward B. Felter, Plymouth, sail for Europe, June 18.

Health Conference Called.—Dr. Cornelius A. Harper, secretary of the State Board of Health, has called a conference of heads of health departments to be held in Madison, June 16 and 17.

Contract for Tuberculosis Camp Awarded.—The State Board of Control has awarded the contract for the construction of the tuberculosis camp on Tomahawk Lake for $8,000. The camp is to be completed by September 1.

New Isolation Hospital.—At a meeting of the members of the State Commission, the County Board of Supervisors and the Douglas County Medical Association, held in Superior, May 13, a campaign was inaugurated for a new city and county isolation hospital.

Sanatorium to Be Used for Insane Patients Only.—Patients of the Douglas County Tuberculosis Sanatorium, Superior, are to be transferred to the Eau Claire or Manitowoc institution, and the hospital will be converted into a state hospital for insane patients afflicted with tuberculosis.

Needs of Emergency Hospital.—Dr. Dennis J. Hayes, president of the Milwaukee County Medical Society, has appointed the following committee of ten to inquire into the needs of an emergency hospital: Drs. Franz Pfister, Lewis G. Nolte, John R. McDill, Albin A. Krygier, Robert G. Sayles, Frederick J. Gaenslen, Frederic C. Gillen, Hubert F. Jermain, Charles H. Lemon and William T. Lochemes.

GENERAL

Anesthetists to Meet.—The second annual meeting of the American Association of Anesthetists will be held at the Hotel Chelsea, Atlantic City, June 22, under the presidency of Dr. J. Tayloe Gwathmey, New York City.

Leper Escapes.—John Early, a leper, has escaped from Diamond Head Quarantine Station, near Port Townsend, Wash. His escape, says Surgeon-General Blue, demonstrates again the necessity of having a national leprosarium.

Examination Date Changed.—An official notice says that the next examination by the State Board of Health of Kentucky has been changed from June 3-5, 1914, to June 15-17, and will be held at the Hotel Henry Watterson, Louisville.

Pennsylvania Surgeons to Meet at Atlantic City.—The annual convention of the Association of Surgeons of the Pennsylvania Lines, East and West of Pittsburgh, will be held at St. Charles Hotel, Atlantic City, June 19 and 20. One of the chief topics of discussion will be the standardizing of methods of treating fractures in railway accidents.

Bequests and Donations.—The following bequests and donations have recently been announced:

Hospital for Deformities and Joint Diseases, New York City, $25,000; Presbyterian, Mount Vernon, and Episcopal hospitals, each $20,000, by the will of Mrs. A. Gertrude Cutter.

Cancer Hospital, and Little Sisters of the Poor, New York City, each $1,000, by the will of Mary F. Kennedy.

New York Foundling Hospital and St. Vincent's Hospital, New York City, each $2,160, by the will of Mary Guerin.

Federated Orthodox Jewish Charities, Chicago, a donation of $1,000 by Samuel Phillipson.

Albany (N. Y.) Medical College, $5,000, by the will of Sylvester McDonald.

FOREIGN

Measures for Suppressing Plague in Japan.—Surgeon B. W. Brown, U. S. P. H. S., on duty at Yokahama, in *Public Health Reports*, May 15, gives a full translation of the regulations adopted for the eradication of plague from the city. He says that during the epidemic of October and November, 1913, in spite of all efforts to stamp it out, twenty-one cases occurred and ninety-nine infected rats were found, and the infection spread to various parts of the city. Money and men were provided and the most thorough measures adopted, and Brown suggests the value of the report to American cities threatened with this infection.

Foot and Mouth Disease in Switzerland.—Consul David F. Wilbur of Zurich has reported that the live-stock and related industries of Switzerland have suffered greatly because of the foot-and-mouth disease, which was present in some of the cantons during the entire year. The cases began to increase and the disease to spread in June, and until the arrival of cold weather in December the ravages of the disease seemed practically uncheckable. It attacked not only cattle, but also to a less extent the hogs, sheep, goats, etc. To combat the spread of the disease the various cantons enacted decrees against neighboring cantons as well as against neighboring foreign countries, which regulated or prohibited the introduction of all live stock into their respective territories. In this way all traffic and trade in live stock was not only greatly hindered, but in some instances it was entirely forbidden.

Deaths in the Profession Abroad.—Bonner Harris Mumby, M.D., Aberdeen, 1881; for eighteen years medical superintendent of the borough asylum, Portsmouth, England; and a member of the Council of the British Medical Association; died suddenly in a motor car between Portsmouth and Southampton, April 29, from angina pectoris.——John Abercrombie, M.D., Cantab, 1880; F.R.C.P.Lond., 1886; consulting physician to Charing Cross Hospital and the Foundling Hospital, London; for several years editor of the Medical Times and Gazette; a specialist in diseases of children; died at his home in Brough, Westmoreland about April 30, from heart disease.——H. v. Wyss, privat-docent for internal medicine at the University of Zurich, aged 33. His publications on metabolism have been valuable. His latest research was on the development of edema under the influence of sodium bicarbonate and he had collected extensive data which he was able only partially to utilize.——A. Pasquale, professor of tropical pathology at the University of Naples and chief of the Scuola d'Igiene Navale and Scuola di Sanita marittima at that place.

CANADA

Floating Hospital.—A floating hospital on the St. Lawrence River is the plan for the reduction of infant mortality during the summer months. It will accommodate about 150 children at a time, and will be reserved for those actually sick. The age limit will be 5 years.

New Department of Analysis.—Montreal is creating a department of analysis. It will be entirely independent of the medical health department and will be a municipal chemical and bacteriology department, under the charge of Dr. Henri St. George, who has been in the employ of the city for eight years.

For Betterment of Health Department.—Dr. Séraphin Boucher, municipal health officer of Montreal, has asked for an appropriation of $5,000, to put the department on a more efficient basis. The plans include the appointment of more efficient sanitary and food inspectors, and the establishment of a civic laboratory, for the analysis of food and other commodities, by an efficient staff.

Physicians Resign.—Nine Montreal physicians have withdrawn from the Herzl Institute, a benevolent medical dispensary for the Jewish population of Montreal. Recently a new directorate was appointed, who immediately proceeded to appoint a new medical board or staff. The retiring staff threatens proceedings against the directorate for having illegally appointed a new staff contrary to the constitution of the institute.

Personal.—Dr. Samuel M. Henry has been elected mayor of Harrison, Ont.——Dr. James G. Scott, Seaforth, Ont., narrowly escaped death, May 17, when a locomotive struck a hind wheel of his buggy. He was hurrying to cross the track in front of the train.——Drs. Edward O. Steeves, Moncton, Francis J. Desmond, Newcastle, and F. S. Walker, St. John, have been reappointed members of the Board of Health of New Brunswick.——Dr. Walter H. Delaney, M.P.P., Quebec, has returned from Italy.——The physicians of Peterborough County, Ont., gave a dinner in Peterborough, May 14, in honor of Dr. Samuel Payne Ford, Norwood, in celebration of the semicentennial of Dr. Ford's entry into practice. Dr. James T. I. Halliday officiated as toastmaster.——Dr. Arthur W. Moody, Winnipeg, has been appointed chief surgeon of the Manitoba division of the Northern Pacific Railroad, vice Dr. Robert J. Blanchard, resigned.——Dr. Louis de L. Harwood, medical supervisor of the Notre Dame Hospital, Montreal, who was operated on in Paris recently, is reported to be convalescent.

CANAL ZONE

Removal of Tuberculosis Wards.—The tuberculosis and isolation wards on the Ancon Hospital reservation have been removed to La Boca and converted into dwellings. The residence of the governor of the zone will be located on the site of the tuberculosis wards. The isolation wards will be reerected on the site of the hospital garden.

Precautions against Plague.—During April the health officer of the Zone condemned 129 small one and two-story structures in Panama on account of their dilapidated condition and the opportunity afforded by them for harboring rats in the walls and under the floors. The building regulations of Panama require single walls and floors of cement or wood laid on cement. War on rats is being conducted daily and they are examined for plague. The presence of plague at Mantua, Ecuador, forty-eight hours from Panama, makes these operations important.

Quarantine Against Plague at Panama.—On May 20 the government authorities at Panama declared a seven-day quarantine against Colombia on account of bubonic plague which had appeared at several points in that republic. The exact extent of the outbreak is unknown. In connection with this report the comment has been made that the canal will have a great and wide influence on sanitation in countries not now giving sufficient attention to sanitary matters. The prohibition of the use of the canal by shipping from infected ports will induce the government of these countries to clean up.

LONDON LETTER

LONDON, May 15, 1914.

The Clinical Congress of the Surgeons of North America

The program of the congress, which will take place in London from July 27 to August 1, is now completed. During each day members of the congress will be the guests of various hospitals and clinics, and will attend operations and demonstrations by well-known surgeons. The General Surgical Division will hold its meetings in the grand hall of the Hotel Cecil, and the Division of Surgical Specialties in the ballroom of the Savoy Hotel. The American surgeons will be welcomed by Mr. Page, American Ambassador. Dr. John B. Murphy will preside over the congress.

GENERAL SURGICAL DIVISION, GRAND HALL, HOTEL CECIL

Monday, July 27: Address of welcome by Sir R. J. Godlee, president of the Royal College of Surgeons; welcome to American surgeons by the American Ambassador, Mr. Page; address to retiring president, Dr. G. E. Brewer. Inauguration of the president, Dr. J. B. Murphy, and the vice-president, Dr. G. E. Armstrong. "The Choice of the Operative Method for Ulcer of the Stomach," A. von Eiselsberg, Vienna; discussion by Sir Watson Cheyne. Preside tial address, "Arthrodesis and Bone Transplantation: Its Limitations and Technic," Dr. J. B. Murphy, Chicago.

Tuesday, July 28: "Cure of Hernia by Tissue Inlaying or Fascial Implantation," Dr. E. W. Andrews, Chicago; discussion by Mr. Lawrie McGavin. "Certain Derangements of the Knee-Joint and Their Treatment," Mr. R. Jones, Liverpool.

Wednesday, July 29: "Typhoid Perforation," Dr. G. E. Armstrong, Montreal; discussion by Sir Anthony Bowlby. "Transplantation of Ovaries," Professor Tuffier, Paris. "Primary and Late Results of Operations for Exophthalmic Goiter or Hyperthyroidism," Dr. Charles H. Mayo, Rochester, Minn.; discussion by Mr. James Berry.

Thursday, July 30: "The Principles of Non-Operative Treatment of Carcinoma," Dr. Krönig, Freiburg. "The Treatment of Inoperable Carcinoma of the Uterus by the Application of Heat," Dr. J. F. Percy, Illinois. "Radical Operative Treatment of Cancer of the Uterus," Mr. T. Wilson, Birmingham; discussion by Dr. T. Watts Eden, Mr. W. E. Miles, London, and Dr. J. C. Bloodgood, Baltimore.

Friday, July 31: "The Use of the Levator Ani Muscle and the Uterosacral Ligament in Prolapse Treatment," Dr. Henry Jellett, Dublin; discussion by Dr. Herbert Spencer. "Surgery of Intestinal Stasis," Dr. J. C. Bloodgood. "Intestinal Stasis," Sir W. Osler, Oxford; discussion by Sir Arbuthnot Lane.

SURGICAL SPECIALTIES, BALLROOM, SAVOY HOTEL

Tuesday, July 28: "The Results of Operations (Laryngofissure) for Cancer of the Larynx," E. Schmiegelow, Copenhagen; discussion by Sir St. Clair Thomson. "The Intranasal Surgery of the Lacrimal Apparatus, after an Experience with over 255 Operations," Dr. J. M. West, Berlin; discussion by Dr. D. R. Paterson, Cardiff.

Wednesday, July 29: "The Application of Skiagraphy to the Mastoid Region and Its Use in the Detection of Disease," Dr. A. Logan Turner, Edinburgh; discussion by Mr. Sidney Scott. "Some Considerations Which Determine the Extent of an Operation in Septic Invasion of the Lateral Sinus," Mr. Hugh E. Jones, Liverpool; discussion by Mr. Hunter Tod.

Friday, July 31: "The Sclerocorneal Trephining Operation for Glaucoma," Lieut.-Col. R. H. Elliott, I. M. S., Madras; discussion by Mr. Treacher Collins. "Operative Procedure for Strabismus," Mr. F. Richardson Cross, Bristol; discussion by Mr. N. Bishop Harman. "Operation for Senile Cataract," Mr. J. B. Story, Dublin; discussion by Mr. Holmes Spicer.

The Membership of the British Medical Association

As explained in previous letters, a large accretion took place to the British Medical Association when the profession considered itself threatened by the national insurance act. In the year 1912 the number of new members was 2,500, producing an increase of membership of 1,267. At the end of the year the crisis came and the association attempted to prevent the working of the act, but failed. The profession was divided into two camps, "panel" and "antipanel," and as the latter formed the great majority of the members, the former considered that their interests could not be properly safeguarded by the association. This led to defection which was increased by raising the annual subscription from $6 to $8.50. The result was shown by the resignation of 2,675 members in 1913, causing a decrease of 2,192 in the membership of the association. In Ireland, where the conditions are peculiar, and medical benefit under the insurance act does not exist, the raising of the subscription was especially resented and the membership fell from about 1,000 to 756. It has also been felt that the association has not been of as much political use to Irish members, as its working has been adapted almost entirely to the very different conditions existing in England. An attempt has now been made to retrieve the position by establishing a separate office in Ireland with a whole-time medical secretary. As, however, an Irish Medical Association with a subscription of only $5 a year already exists for the same political purpose, it is very doubtful whether the Association will benefit either itself or the Irish profession by this new departure.

PARIS LETTER

PARIS, May 8, 1914.

Personal

At its session, May 5, the Académie de médecine elected Dr. Routier, surgeon to the Necker Hospital, a member in the section of operative medicine, to fill the place left vacant by the lamented death of Dr. Lucas-Championnière. Dr. Routier is known especially for his numerous works on abdominal surgery and gynecology. It was he who in 1890 performed the first interval operation for appendicitis in France.

A Sanitary League against Rats and Flies

A *Ligue sanitaire française contre la mouche et le rat* has just been formed. It purposes the extermination, not only of flies and rats, but also of all disease-carrying vermin, and will institute a propaganda of education in hygiene and sanitation.

The Fight Against Alcoholism in Morocco

Since alcoholism has already begun its ravages in Morocco, the government of the protectorate has deemed it necessary, following the example of the Ivory Coast, to pursue the only really efficacious method: the absolute interdiction of absinthe to Europeans as well as to natives. A decree of the sultan has just been issued which formally prohibits the importation, manufacture, circulation, sale, or detention with a view to selling, of absinthe and similar products in the French portion of the country. Absinthe and similar products may not be made or sold except by pharmacists, under the classification of medicinal products. Every infraction of this decree is to be punished by a fine of from 300 to 3,000 francs ($60 to $600). For a repeated offense, the penalty is imprisonment for from three months to three years. Moreover, any public house in which the sale of absinthe and similar alcoholics is permitted will be closed for six months, aside from the penalty imposed on the proprietor. In case the offense is repeated, the establishment will be closed permanently.

BERLIN LETTER

BERLIN, May 9, 1914.

Volunteer School Nurses for Berlin

In Berlin, as elsewhere, advice given to parents by school physicians is not always followed through carelessness, want of judgment or poverty. In many places school nurses have been instituted who take care that the orders of school physicians are followed. As Berlin has not yet installed school nurses, the Berlin Society for Domestic Sanitation will, by order of the city school deputation, establish a school-nurse service, at first in three school physicians' districts. This society has nine district committees in various parts of the city, which through many years' experience in detailed philanthropic work, are familiar with the conditions of the needy residents of their districts and can rely on trained volunteer assistance.

Annual Meeting of German Internists

At the *Kongress für innere Medizin*, which took place from April 21 to 23 at Wiesbaden under the presidency of the Munich clinician, Professor von Romberg, two topics excited the greatest interest, namely, the address of von Behring on his diphtheria prophylactic and the report by Werner of Heidelberg on radiotherapy of neoplasms of the internal organs.

BEHRING'S METHOD OF PROPHYLAXIS OF DIPHTHERIA

At the meeting last year, Behring announced his new prophylactic, which consists of a mixture of diphtheria toxin and antitoxin. From two to three thousand persons have been given the prophylactic, but exact painstaking observations have been made only on about one thousand. To Behring it seems a quite justifiable expectation that by regular and exact use of the T.-A. method, diphtheria may be made an exotic disease just as small-pox has become since the time of Jenner wherever vaccination has been carried out systematically and under the direction of expert physicians. To be sure, Behring admits that the scientific basis and the practical application do not as yet furnish sufficient guarantees for the fulfilment of this hope to its full extent in his lifetime.

In none of the single injections, which number about 7,000, has any harm been done. This results chiefly from the animal experimentation by which Behring secures positive evidence, first, that the preparation intended for the treatment of human beings contains not even a trace of the paralyzing element of the toxin, second, that the toxic power has been exactly determined by trial on guinea-pigs, and third, that especially in horses the capability of producing antitoxin has been learned to a certain degree of reliability. Further, Behring requires the testing of every new lot by his standard preparation M. M. 1, which has retained its toxic and immunizing properties for fifteen months unchanged.

In his first communication Behring could already report that in many cases such a dose of his remedy as is intended for the new-born would cause a marked reaction in older persons, especially in children of school age. An explanation of this fact may be found in the assumption of a specific sensitization in consequence of previous introduction of diphtheria bacilli which renders the individuals hypersensitive to the T.-A. For the great majority of cases, this must be regarded as correct, but in addition we have also a non-specific hypersusceptibility. This was in many cases extraordinarily great in tuberculous and scrofulous persons, in whom, in addition to the intense local reaction, an inclination to a painful swelling of the lymph-nodes appeared. Furthermore, among a large number of new-born and older infants, there were found some which reacted positively to as small doses as the schoolchildren among whom a second trial likewise was positive. Such cases deserve marked attention in reference to prophylactic vaccination against diphtheria because in them the positive reaction is not a sign of production of antitoxin in adequate amounts for protection against diphtheria.

For the purpose of a statistical investigation, intended to show the protective action of the new remedy, Behring would like, for the present, to have the lymphatic constitution and other similar conditions regarded as contra-indications for this method of prophylactic vaccination. He would also exclude from this treatment for the present atrophic infants and infants less than 9 months old.

The subcutaneous injection is recommended as the best method of application. There can be no doubt that, in many cases, a single injection produces a sufficient protection. Such persons are, as a rule, those who have been already sensitized by diphtheria bacilli. For the ordinary run of cases, at least two injections should be made. The first injection then plays the part of a sensitizer; sensitization, experience shows, occurs after from ten to fourteen days, which leads to the requirement that the second injection should not be made until after an interval of not less than ten days.

There are several preparations of T.-A.; T.-A. 8 has the lowest toxicity and has an equivalent value to that of the standard preparation M. M. 1, while T.-A. 7 is ten times and T.-A. 6, twenty times as strong in its toxic and immunizing power for man.

ANTITOXIN IN THE BLOOD

Systematic examination of the blood for antitoxin has shown a surprisingly large number of untreated cases in which the blood already contains antitoxin. Antitoxin could be demonstrated in the blood of not less than from 60 to 80 per cent. of the new-born. The children of the ages which furnish the greatest proportion of cases of diphtheria, however, more rarely show a positive reaction. The fear expressed by some that a protective remedy is not indicated in persons who are already under the influence of an imported diphtheria toxin has been finally dissipated by practical experience. Not one of the numerous bacillus-carriers that have been injected with T.-A. have sickened from diphtheria. Whether or not the active immunization with T.-A. will help them to get rid of the diphtheria bacilli is an open question.

VIENNA LETTER

VIENNA, May 5, 1914.

The Program of Lectures for the Summer Term

The official program of the lectures for the coming term of the Medical Faculty of Vienna has recently been published. Primarily, the lectures and classes are arranged for the medical students and only a few of them are intended for doctors of medicine. The latter are expected to attend the postgraduate classes, notices of which are published from time to time. On application from a certain number of men (from six to eight) any one of the professors or lecturers will be willing to arrange a special class or course. The students' courses will number 429, lasting between sixteen and fifty hours each. They will comprise the whole field of medicine. Naturally, internal medicine (with ninety-eight different classes) and surgery (with forty-two classes) lead. The prominence of rhinolaryngology and otology is shown by the twenty-two classes on these subjects. Anatomy, bacteriology and serology are not in such demand. A staff of 114 professors, eighty-five of whom are eminent, together with 133 docents and assistants, will direct the work.

The program contains also some figures as to the number of students in the last (winter) term. At the University of Vienna, from a total of 10,310 students, 3,018 were medical students, of whom 190 were women. The seven other universities of Austria had 31,397 students, of whom 7,330, or 23 per cent., were medical students. There were 320 female medical students, or a little over 4 per cent. of the total; 2,280 students, or 30 per cent., did not speak German.

The German constituent comprises 45 per cent. of the population of this country. It seems, therefore, that the other nations are attempting to make up for the previously wrong national distribution of qualified men. Within the last ten years the total number of medical students has risen from 18 to 30 per cent., and the increase of first-year medical students, against which there was such a bitter complaint, is due chiefly to this fact. It is also gratifying to learn that the number of foreign doctors attending the Vienna University is also increasing. Last term the number rose to 16 per cent.

The Third International Congress for Occupational Diseases

During September an international congress on occupational and industrial diseases will be held in Vienna. It will be associated with an exhibition which will illustrate the development and prevention of diseases caused by certain occupations and the influence of certain occupations on health and hygiene in general. The following subdivisions of the field to be covered have been made and the men named will speak on the subject: 1. "Fatigue," the physiology and pathology of labor on the nervous system, on the bones, static factors and night-work, Professor Durig, Vienna. 2. "Work in Moist and Hot Air," Professor Carozzi, Milan. 3. "Anthrax," Professor Schattenfroh, Vienna. 4. "Pneumoconiosis," Prof. L. Devoto, Milan. 5. "Injuries by Electricity in Industries," Professor Langlois, Paris. 6. "Industrial Poisons," Professor Lehman, Wurzburg. (This will also include the commercial handling of poisons in large quantities.) 7. "Injuries to the Auditory Nerves by Occupations." Several will speak on this subject.

In connection with the congress, excursions will be conducted to the large industrial establishments in which the modern equipments for the prevention of industrial injuries will be studied, including trips to the mines, and paraffin and kerosene wells.

Health of Vienna in the First Quarter of This Year

The official monthly report for March of the Board of Health includes the facts of the two preceding months. Thus, the year 1914 has been extremely favorable in the mortality and morbidity rates from infectious diseases. A marked drop is noted, especially in scarlet fever and diphtheria, while the foggy weather of February has been characterized, contrary to expectation, by constant temperature and low morbidity. The mortality is now below 15 per cent., the yearly average being 16.2 per cent. The infant mortality is still high, causing 21 per cent. of total deaths, while senility causes 3 per cent. of deaths.

Marriages

WILLIAM EMERY HARRINGTON, M.D., Waukita, Okla., to Miss Evelyn Epperson, in Enid, Okla., recently.

SYDNEY SMITH CARRIER, M.D., Pittsburgh, Pa., to Miss Lillian Simrall Hunter of Louisville, Ky., May 14.

EDMUND W. MEISENHELDER, JR., M.D., to Miss Francis Foust, both of York, Pa., in Harrisburg, May 9.

WILLIAM MECKLENBURG POLK, M.D., to Miss Maria H. Dehon, both of New York City, May 12.

FRANKLIN HERBERT SISLER, M.D., to Miss Blanche Virginia Deitrick, both of Sun, W. Va., May 13.

P. A. SURG. EDWARD URBANE REED, U. S. N., to Miss Nellie Hall Bayles of Denver, Colo., May 12.

ELIJAH A. LAMBERT, M.D., Denton, Ga., to Miss Mary Lawrence of Ashburn, Ga., April 30.

ANDRE WILLIAM REGGIO, M.D., to Miss Marian Shaw Lovering, both of Boston, recently.

FRANK B. SORGATZ, M.D., to Miss Vera Van Winkle, both of Oklahoma City, Okla., May 3.

WAVERLY DANIEL BRETZ, M.D., to Miss Vera Canz, both of Memphis, Tenn., May 8.

Deaths

Niles Theodore Quales, M.D. Rush Medical College, 1866; a Fellow of the American Medical Association; and Nestor of the Scandinavian physicians of the Northwest; died at his home in Chicago, May 23, from pneumonia, aged 83. He was born in Hardanger, Norway; had his preliminary education in Norway and Denmark, and in 1859 came to Chicago. On the outbreak of the Civil War, he enlisted; and at its conclusion entered Rush Medical College. He was first intern in the old Cook County Hospital; and during the small-pox epidemic of 1868-1870, he was city physician and director of the small-pox hospital then located near the lake on North Avenue. He was also in charge of the United States Marine Hospital until the Chicago fire of 1871. In 1894 he was made president of the Scandinavian-American Medical Society; and in 1910 was honored by King Haakon of Norway with the Order of Saint Olaf. He was the founder of the Norwegian Old People's Home, Norwood Park; and was always prominent in charitable work among the Scandinavians of the city. At his funeral, May 26, members of the Scandinavian-American Medical Society officiated as pallbearers.

Julia Dyer Merrill, M.D. Northwestern University Women's Medical School, Chicago, 1895; formerly superintendent of nurses in the North Adams, Mass., Training School; and after her graduation in medicine, assistant to Dr. A. C. Cotton, Chicago, for several years; assistant clinical professor of pediatrics in Rush Medical College from 1897 to 1913; and a member of the pediatric staff of Presbyterian, Tabitha, Chicago Maternity, Maimonides and Mary Thompson hospitals; and deeply interested in various orphanages, sanatoriums for babies, and other infant welfare organizations; a member of the Chicago Milk Commission from its inception until 1913; a Fellow of the American Medical Association; died at her home in Chicago, May 17, from infectious endocarditis complicated with pneumonia, aged 53.

Charles Enfield, M.D. College of Physicians and Surgeons in the City of New York, 1870; a Fellow of the American Medical Association and American Academy of Ophthalmology and Laryngology; a member of the American Association for the Advancement of Science, and the American Association of Railway Surgeons; a veteran of the Civil War, in which he served in the Hospital Corps of the First New York Volunteer Infantry; a practitioner of Jefferson, Iowa, since 1871; died at his home in that place, May 7, from pneumonia, aged 71.

Thomas Mackaness Ludlow Chrystie, M.D. Bellevue Hospital Medical College, 1867; a member of the Medical Society of the State of New York; an ensign in the Navy during the Civil War; for many years a practitioner of New York City, and for quarter of a century physician to the New York State Branch of the Order of the Cincinnati; died at his home in Rye, N. Y., May 19, aged 72.

Carl Robert Feld, M.D. Rush Medical College, 1891; a Fellow of the American Medical Association, and secretary of the Jefferson County (Wis.) Medical Society, since its organization; for twenty years clerk of the Board of Education of Watertown, Wis.; a member of the state legislature in 1885, 1887 and 1889; for nearly twenty years health commissioner of Watertown and the township of Lebanon; died at his home in Watertown, May 12, from diabetes, aged 55.

Gustavus Brown Thornton, M.D. New York University, New York City, 1860; a Fellow of the American Medical Association; regimental, brigade and division surgeon in the Confederate service throughout the Civil War; local surgeon of the Memphis Division and Terminal, Illinois Central and Southern Railway; for many years superintendent of the Memphis City Hospital, and president of the Board of Health of the city; died May 13, aged 79.

Henry Clay Devilbiss, M.D. College of Physicians, Baltimore, Md., 1877; a Fellow of the American Medical Association; formerly president of the Medical Society of Franklin County, Pa.; treasurer of the Cumberland Valley Medical Association; and since its organization, a member of the medical staff of the Chambersburg Hospital; died at his home in Chambersburg, Pa., May 17, aged 65.

J. K. Robinson, a non-graduate of Randolph County, Mo., who practiced for a year under his preceptor, and then became a clergyman; died at his home in Clark, Mo., March 23, from endocarditis, following influenza, aged 70.

Robert Hughes Hayes, M.D. Washington University Medical School, St. Louis, 1879; a member of the Medical Association of the State of Alabama; died at his home in Union Springs, Ala., May 3, from heart disease, aged 56.

John McCroskery, M.D. Bellevue Hospital Medical College, 1887; a Fellow of the American Medical Association; of New York City; died suddenly from heart disease while making a professional call, May 9; aged 49.

William Francis Gleason, M.D. Harvard Medical School, 1886; a member of the Rhode Island Medical Society; formerly chairman of the school committee of Providence; died at his home in that city, April 29, aged 52.

Philander Palmer (license, Michigan, twenty-four years of practice, 1900) a veteran of the Civil War; one of the oldest practitioners of Grand Haven, Mich.; died at the home of his son in that city, May 4, aged 77.

David Alexander Ryan, M.D. Dearborn Medical College, Chicago, 1906; formerly a member of the staff of the German Hospital; died at his home in Chicago, May 15, from a nervous breakdown, aged 55.

James W. La Force, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1856; a pioneer practitioner of Eldon and Floris, Iowa; died at the home of his daughter in Bloomfield, Iowa, May 4, aged 87.

James F. Keith, M.D. Missouri Medical College, St. Louis, 1871; president of the Citizens' Bank of Sturgeon, Mo.; died in a hospital in St. Louis, about April 30, from disease of the bladder, aged 64.

Hiram O. King, M.D. Detroit Medical College, 1876; a member of the Indiana State Medical Association; died at his home in Kendallville, Ind., May 5, from disease of the spinal cord, aged 62.

Robert King, M.D. New York Homeopathic Medical College, 1863; for thirty years a practitioner of Emporia, Kan.; died at his home in that city, May 2, from malignant disease, aged 74.

Ira Young Kezartee, M.D. University of Michigan, Ann Arbor, 1867; for twenty-two years a practitioner of Battle Creek, Mich.; died at his home in that city, May 4, aged 69.

John Alvin Graham, M.D. Western Pennsylvania Medical College, Pittsburgh, 1890; died at his home in West End, Pittsburgh, May 1, from disease of the stomach, aged 47.

Thomas Harding Ellis, M.D. Medical College of Virginia, Richmond, 1884; formerly of Montebello, Va.; died at his home in Glenwood, N. C., March 25, aged 51.

Alonzo N. Sheffner, M.D. Bennett Medical College, Chicago, 1873; a veteran of the Civil War; died at his home in Hay Springs, Neb., April 30, aged 73.

Mary C. Farnham, M.D. Hahnemann Medical College, Chicago, 1881; died at her home in Denver, Colo., May 2 from pleuropneumonia, aged 71.

Phillip Heldrich, M.D. University of Maryland, Baltimore, 1883; formerly of Elmira, N. Y.; died at his home in Baltimore, May 1.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

LIQUID PETROLATUM OR "RUSSIAN MINERAL OIL"

Report of the Council on Pharmacy and Chemistry

The following report was submitted to the Council by a referee and its publication authorized by the Council.

W. A. PUCKNER, Secretary.

Petroleum has been in use as a medicine from time immemorial. It was known to Herodotus 400 years before Christ and is mentioned by Plutarch, Dioscorides, Pliny and other early writers. It was extensively used by the Arabians and evidently played an important part in the practice of medicine in India, being known to the Bengalese as Muthe Katel. The raw product was the substance used in earlier times and differed much in character and composition, as obtained from different sources.

As an internal remedy it was early employed in chronic pulmonary affections, in obstinate skin diseases, in rheumatism, and for the expelling of tapeworms. It was extensively used for these several purposes in France under the name of "Oleum Gabianum" and in North America as "Seneka oil."

The internal use of the refined product may be traced to a patent granted to Robert A. Chesebrough of New York, in June, 1872, for the manufacture of a "new and useful product from petroleum, named vaseline." This name was originally applied only to a semisolid preparation, but later a liquid product known as liquid vaseline was marketed and for a time exploited as a cure for coughs, colds, consumption and a number of other diseases and conditions.

The liquid petrolatum has since become known under a variety of names, proprietary and otherwise, in addition to being used as a substitute or an adulterant for other, more costly, fats and oils. Some of the names applied to the product are:

Adepsine oil	Neutralol
Amilee	Olo
Atoleine	Paraffin Oil
Atolin	Paroline
Blandine	Petralol
Crysmalin	Petro
Decline	Petrolax
Glyco	Petrolia
Glycoline	Petronol
Glymol	Petrosio
Heavy petroleum oil	Rock Oil
Liquid Albolene	Russian liquid petrolatum
Liquid Cosmoline	Russian mineral oil
Liquid Fossiline	Russian paraffin oil
Liquid Geoline	Russol
Liquid Paraffin	Saxol
Liquid Petrolatum	Terraline
Liquid Saxoline	Terralbolia
Liquid Vaseline	Usoline
Mineral Glycerin	Water-white mineral oil
Mineral Oil	White paraffin oil.

A preparation similar to that official in the Pharmacopeia of the United States as liquid petrolatum has been included in many, if not all, of the foreign pharmacopeias, the official titles under which this preparation is recognized being as follows:

Petrolatum Liquidum, U. S. Pharmacopeia; Paraffinum Liquidum, pharmacopeias of Great Britain, Germany, the Netherlands, Japan, Belgium, Austria, Denmark, Switzerland, Sweden, Servia, Italy, Hungary and Russia; Oleum Paraffinae, Spanish Pharmacopeia; Vaselinum Liquidum, French Pharmacopeia, and Oleum Vaselini (as a synonym) pharmacopeias of Denmark and Russia.

The requirements of the several pharmacopeias differ somewhat and the specific gravity as given is as follows:

U. S. P. VIII, 1905	0.870	to	0.940	at 25°
Ph. Brit. IV, 1895	0.885	to	0.890	at 15.5°
B. P. C. II, 1911, usually	0.875	or	lower	at 15°
Ph. Germ. V, 1910, at least	0.885			at 15°
Ph. Ross. VI, 1910	0.880	to	0.885	at 15°
Ph. Hung. III, 1909	0.88	to	0.89	at 15°
Ph. Ital. III, 1909	0.875	to	0.890	at 15°
Ph. Fr. V, 1908, about	0.875			at 15°
Ph. Serb. II, 1908, about	0.880			at 15°
Ph. Svec. IX, 1908	0.88	to	0.90	at 15°
Ph. Helv. IV, 1907	0.880	to	0.885	at 15°
Ph. Dan. VII, 1907, at least	0.880			at 15°
Ph. Austr. VIII, 1906, at least	0.880			at 15°
Ph. Belg. III, 1906, not below	0.880			at 15°
Ph. Japon. III, 1906	0.875	to	0.945	at 15°
Ph. Ndl. IV, 1905, not below	0.860			at 15°
Ph. Hisp. VII, 1905	0.840			at 15°

For pharmaceutical purposes, liquid petrolatum may be divided into two grades, the lighter or more limpid oil, used extensively as a vehicle for oil sprays, and the heavier, more viscid oil generally recognized in European pharmacopeias and used as an ingredient of ointments and more recently as a remedy in the treatment of intestinal stasis.

Under petrolatum liquidum the U. S. P. recognizes a mixture of hydrocarbons, chiefly of the methane series, which occurs as a colorless or very slightly yellowish, oily, transparent liquid without odor or taste and having a specific gravity of about 0.870 to 0.940 at 25 C. For the U. S. P. IX, it is proposed to change this requirement somewhat so as to have it apply to a transparent liquid free from fluorescence, without odor or taste and having a specific gravity of from 0.845 to 0.940 at 25 C.

Such a requirement would include all of the available paraffin oils irrespective of origin. The now commonly available commercial liquid petrolatum, used for pharmaceutical purposes, is practically colorless and all of the better grades are free from odor or taste. The specific gravity varies from 0.855 to 0.895. The lighter oils, having a specific gravity of from 0.860 to 0.870, are usually preferred in the making of oil sprays or solutions of substances to be used as local applications. The product having a specific gravity above 0.875 evidently contains a considerable amount of dissolved solid paraffin which separates out at temperatures at or below 0 C., but readily dissolves again at temperatures above 10 C.

There is considerable difference in the chemical composition of the paraffin oils obtained from various sources. The American oil consists largely of hydrocarbons of the methane series, while the Russian oil contains naphthenes or hydrocarbons of the benzene series, having the empirical composition of ethylene, (C_6H_{30}) which may be considered as hydrogenated aromatic hydrocarbons, though they behave with reagents very much in the same way as do the hydrocarbons of the methane series.

Mineral oils with a naphthene base are best suited for making white petrolatum, and at the present time the production of the colorless water-white liquid petrolatum appears to be confined largely or almost exclusively to the crude product of the Baku district of Russia, though it is asserted that it is now also made from the Hanover (Germany) crude oil and that some is being produced by "cracking" the white solid paraffin.

It is also said that the American oil can be made water white but that it is not being so produced at present for economic reasons; the yellowish oil, free from fluorescence, having a very wide sale, both as a lubricant and as a substitute for lard oil and other of the more costly lubricating oils.

From a pharmaceutical point of view it would appear important to note the physical characteristics of the oil and to insist on absence of color, absence of odor and taste, absence of acid and of alkali and a specific gravity in harmony with the purposes for which the oil is to be used.

During the past year or two liquid petrolatum has attracted considerable attention as a remedy in the treatment of intestinal stasis or chronic constipation, the practice of using it having been developed largely through its recommendation by Sir W. Arbuthnot Lane and his associates. This use of liquid petrolatum and of petrolatum products

generally is by no means novel. N. A. Randolph[1] of Philadelphia, was among the first to suggest its use for this purpose in an article published in 1885. Randolph also appears to have been the first to experiment with petrolatum and to determine its non-absorbability from the intestinal tract. In an article[2] in 1884 he concludes that "pure petrolatum while entirely unirritating to the digestive tract is valueless as a foodstuff."

The experiments recorded by Randolph were evidently prompted by the fact that vaseline and a number of imitation products then on the market were being sold as substitutes for lard and butter, and opinions regarding the food value of petroleum products appear to have differed very materially. Following the experiments of Randolph, Robert Hutchison in 1899 made a series of experiments to demonstrate that petroleum, petrolatum, paraffin and related products were absolutely unassailable by any of the digestive fluids, despite the "large vogue that had of late years been given to various petroleum emulsions, chiefly by ingenious and unterrified advertising." He came to practically the same conclusions arrived at by Randolph fifteen years earlier and pointed out that "liquid paraffin in one sense may be regarded as an artificial intestinal mucus and might in that way have some value on certain forms of constipation."

William Duffield Robinson[3] reports on the use of a perfectly refined colorless and odorless petrolatum, supposedly of American origin. He was able to show that all of the product passed unchanged through the intestinal tract and could be regained from the feces. In his conclusions he expressed the belief that the effect of the administration of these petroleum products is far more than as a simple intestinal lubricant. In over fifty selected cases in which nutrition, digestion and body-weight were impaired, and the purest oil administered in 1- or 2-dram doses each day for a period of from four to six months, there was in every instance an improvement of weight, health and feeling of well-being. The administration of refined paraffin oil gave no discomfort in any instance, even in cases in which nearly a pint was given in a few hours.

William Ewart[4] suggests liquid paraffin as a safe agent for the local treatment of the lesions in typhoid fever. He says in part: "Mineral oil, such as petrolatum or paraffin, is neither absorbed nor dissolved; therefore, after all absorbable ingestions are taken up by the lacteals, it will still remain in the bowel. In this way pure liquid paraffin is valuable, precisely because it is inert; moreover, it might some day, perhaps, be made the vehicle for effective topical remedies."

A. D. Schmidt[5] quotes Stubenrath as having given liquid paraffin in the treatment of chronic constipation, and he himself gave as much as 20 gm. of liquid paraffin to adults without observing any injurious effect whatever. He says, "As a result of the administration of liquid paraffin, the feces are softened considerably and are found under the microscope to contain numerous minute globules of paraffin." He was, however, unable to recover from the feces the entire quantity of paraffin administered and believes that a certain portion of it, probably the fractions with a low boiling-point, are absorbed or possibly oxidized in the organism.

Maurice Vejux Tyrode[6] also refers to the use of liquid petroleum in the treatment of constipation.

Sir W. Arbuthnot Lane in his recommendations of liquid petrolatum calls it an ideal remedy for stasis, but cautions against the use of the lighter oil as extensively prescribed in this country as a vehicle for sprays in nose and throat work.

Paraffin oil is not absorbed from the alimentary tract and so far as known exerts no deleterious influence. It is usually given in quantities of from 10 to 20 c.c. half an hour or an hour before meals or in larger doses, from 30 to 50 c.c., at one time on retiring. From available evidence it appears that comparatively huge doses may be administered without the production of any untoward results. According to many observers, liquid paraffin should not be given with or after meals because of the inhibiting influence that it may have on the digestion of food. It is not soluble in water or the ordinary solvents and therefore cannot be diluted. The denser oils are preferably slightly warmed or drunk with warm water so as to obviate the disagreeable slimy sensation that persists when taken cold.

Volatile oils may be used in moderate amounts to give a distinctive taste to the otherwise rather insipidly tasteless paraffin oil. Among the more desirable oils to be used for this purpose would be oil of peppermint, oil of cinnamon, oil of betula or methyl salicylate and oil of cloves. From 2 to 10 drops of any of these oils can be added to a pint of the oil. When larger doses of the oil are to be given at one time, it would, of course, be advisable to use a comparatively smaller quantity of the volatile oil as a flavor.[7]

From the foregoing it would appear that apart from the Pharmacopeia of the United States, practically all other known pharmacopeias describe a water-white mineral oil under the title "Paraffinum Liquidum" or "Liquid Paraffin" as a colorless, odorless, tasteless, non-fluorescent, oily liquid, free from acids, alkalies and organic impurities. As explained before, the specific gravity of the preparation as recognized in other countries and as offered on the American market at the present time varies considerably, and there appears to be some difference of opinion as to the exact nature of the product that is preferable for use for different purposes. This matter requires further investigation.

Since the definition of liquid petrolatum in the U. S. Pharmacopeia permits the use of fluorescent products of widely varying specific gravities, it is recommended that physicians who desire the water-white non-fluorescent (Russian) mineral oil should use the term "Petrolatum Liquidum, Grave," or "Paraffinum Liquidum, B. P.," if the heavy product recommended by Lane is desired, and "Petrolatum Liquidum, Leve" if the light varieties are required. It is further recommended that under the foregoing names, manufacturers and pharmacists be requested to dispense the products, in accordance with the following descriptions:

Petrolatum Liquidum, Grave.—Heavy (Russian) Liquid Petrolatum.—Paraffinum Liquidum, B. P., liquid paraffin.—A transparent, colorless, tasteless, non-fluorescent, oily liquid, odorless when cold but giving off a faint petroleum odor on heating. This preparation should correspond to the requirements of the British Pharmacopeia for liquid paraffin and have a specific gravity of about 0.885 to 0.890 at 15 C. It is insoluble in water or alcohol but soluble in boiling absolute alcohol and readily soluble in ether, chloroform, carbon disulphide, petroleum benzin, benzene and fixed and volatile oils. It serves as a solvent for volatile oils and related substances like camphor, menthol and thymol.

This is the type of preparation used by Sir W. Arbuthnot Lane, and his associates for internal administration. It is also used as a basis for ointments and salves and as a local application to wounds, ulcers and in certain forms of skin diseases in which a simple protective is desired.

Petrolatum Liquidum, Leve.—Light (Russian)—Liquid Petrolatum.—A transparent, colorless, tasteless, non-fluores-

1. Randolph, N. A.: Therap. Gaz., 1885, ix, 732.
2. Randolph, N. A.: Proc. Acad. Nat. Sc., Philadelphia, 1884, p. 281.
3. Robinson: William Duffield: Med. News, 1900, lxxvii, 56.
4. Ewart, William: Brit. Med. Jour., 1902, ii, 1505.
5. Schmidt, A. D.: München. med. Wchnschr., 1905, lii, 1970.
6. Tyrode, Maurice Vejux: Boston Med. and Surg. Jour., 1910, clxii, 673.

7. In addition to the articles referred to in the preceding footnotes, the following are of interest in connection with this subject:
Editorial, Therap. Gaz., 1885, ix, 353.
Junker, F. A.: Med. Record, London, 1885, xiii, 506.
Editorial, Med. News, 1886, xlviii, 105.
Dunbar: Deutsch. med Wchnschr., 1896, xxii, 33.
Stubenrath, Franz Casimir: München. med. Wchnschr., 1897, xliv. 639.
London Letter, Med. News, 1899, lxxiv, 504.
Hutchison, Robert: Brit. Med. Jour., 1899, i, 724.
Schlesinger, E. G.: Boston Med. and Surg. Jour., 1913, clxix, 14.
Lane, W. Arbuthnot: Brit. Med. Jour. 1913, ii, 1126; Proc. Roy. Soc. Med., 1913, vi, 49; Surg. Gynec. and Obst., 1913, xvi, No. 6.
Jordan, Alfred C.: Practitioner, London, February, 1913.
Chrysospathes, J. G.: Zentralbl. f. Chir., 1913, No. 45; abstr., THE JOURNAL A. M. A., Dec. 13, 1913, p. 2201.

cent, oily liquid, odorless when cold, but giving off a faint petroleum odor on heating. In other respects this preparation should correspond to the pharmacopeial tests for liquid petrolatum and have a specific gravity of about 0.860 to 0.875 at 15 C. Like the heavy variety of liquid petrolatum, it is insoluble in water and alcohol, but soluble in boiling absolute alcohol and readily soluble in ether, chloroform, carbon disulphide, petroleum benzin, benzene and fixed and volatile oils. It serves as a solvent for volatile oils and related substances like camphor, menthol and thymol.

This is a type of preparation extensively used as a vehicle for the oily sprays in nose and throat work. It is also being used as one of the constituents in the now popular paraffin oil cold cream and has been used to some extent for internal administration in the treatment of chronic stasis. Being more limpid than the preparation preferred by Lane, it is more readily taken, though greater care must be exercised in securing a sample devoid of the lighter fractions of petroleum distillates.

GERALD MACAURA—INTERNATIONAL QUACK

An American Impostor who Defrauded the British with Impunity but was Unappreciated by the Germans and French

Gerald Macaura is a quack of international notoriety who calls himself "doctor" and claims to be a graduate of the National Medical University of Chicago. The official list of the alumni of the National Medical University of Chicago does not contain Macaura's name. Even if it did, Macaura would have nothing to brag about, for the National Medical University, now defunct, was an institution of the sun-down variety whose reputation was so unsavory that it was not recognized by the authorities of the very state in which it did business.

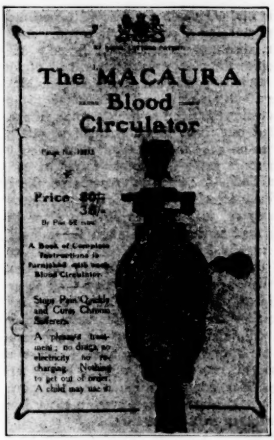
Gerald Macaura calls himself a "vibrotherapist." In 1904 he was in Baltimore. About a year later he transferred his

BOSTON'S INVENTION THAT LOOSENS STUFF JOBBITS.
MACAURA LECTURES
THREE TIMES DAILY
STEAD AND HIS PATIENTS AT CLAVIER HALL

Greatly reduced reproduction of some of the advertisements run by Macaura in the London newspapers during his campaign in that city. Note the way in which the late editor of the English *Review of Reviews* was made an advertising asset by this quack. Macaura opened his advertising campaign by hiring the Royal Albert Hall, later he used Clavier Hall.

activities to Dublin, Ireland, where in partnership with another quack, one Dick Sorelle, he conducted a medical institute under the title the "American Doctors." Like other quacks—medical and otherwise—he commercialized his country's emblem by floating the Stars and Stripes above his fakery. In those days, it seems, Macaura had not started his vibrotherapy fraud, but was relieving the gullible of their money *via* the "electric treatment" route.

In 1908 Macaura crossed the Irish channel and opened another "institute" in Manchester, England. It was at this time that he brought out his "blood circulator" which, he assured his dupes, was "Protected by His Majesty's Royal Letter Patent." The "blood circulator" he first christened the "Pulsator," but later changed its name to the "Pulsocon." Finding the English so naively gullible Macaura soon decided that Manchester offered too small a field for his talents, and in 1910 went to London. It was here that he gave full play to his advertising genius—for the swindler undoubtedly has genius in this line. He rented the Albert Hall, one of the largest auditoriums in London, and opened his campaign with a two-night "show" that was widely advertised in the London newspapers. Macaura spent tens of thousands of pounds on newspaper advertisements.


The MACAURA
— Blood —
Circulator
Price
A Book of Complete Instructions is Furnished with each Blood Circulator
Super Plan Quality and Cures Chronic Sufferers
A pleasant treatment; no DRUGS no electricity nor fee charged. Nothing to get out of order. A child may use it.

Photographic reproduction of the back cover of Macaura's booklet showing the vibration device sold in England under the name "Pulsocon" and in the United States as the "Cirkulon."

As a master-stroke of advertising, Macaura was able to interest the late W. T. Stead in his faking and page after page of the London papers were filled with Macaura's blatant advertisements in which Stead's name was capitalized and used as a huge advertising asset. Mr. Stead was undoubtedly honest in his belief that Macaura had something of value in his widely heralded treatment. In this instance, as in some others equally well known, the late editor of the English *Review of Reviews* showed a sincerity of purpose that was exceeded only by his appalling lack of judgment on things medical. A few years before, Mr. Stead had advocated the notorious Count Mattei "cancer cure" which investigation showed to consist of nothing but water; later, he came to the support of an equally worthless cure for cancer—violet leaves; then it was Macaura's "Pulsocon." Needless to say, Macaura took full advantage of the publicity given him by his champion, Mr. Stead, and he reaped a golden harvest. Needless to say, too, when Mr. Stead finally admitted the worthlessness of Macaura's "treatment" the publicity given this admission was practically *nil*.

How beautifully Macaura worked the British public can be gathered from the following incident. One of the cheaper evening London papers in the summer of 1910 contained this news item:

> WELL-KNOWN DOCTOR'S CHAUFFEUR FINED
>
> At Beaconsfield Police Court yesterday the chauffeur employed by Dr. Gerald Macaura, inventor of the Macaura machine, was fined £5 and £3 8s 6d costs for exceeding the speed limit.
>
> Dr. Macaura explained that he was behind with his appointments with several important patients, and was at the time on his way to the residence of the Earl and Countess Roberts at Ascot.

Eight guineas and six pence is certainly dirt cheap for such a magnificent puff. What plebeian cockney, with "a sneaking liking for a lord," could withstand the subtle suggestion that by purchasing one of Macaura's "Pulsocons" he would be able to obtain the same "treatment" as that given to Earl Roberts?

In time, as in all such cases, the British realized what Macaura was, and his blatant and mendacious advertising was insufficient to overcome the counter-force of the knowledge of his inefficiency and fraud. Then in the autumn of 1911 the quack announced that he was coming back to the United States. At the time, THE JOURNAL[1] felicitated London on being well-rid of a most undesirable citizen. For some reason Macaura changed his mind and instead of returning to the United States transferred his fraudulent operations to the continent. In Germany he found a paternalistic government that interfered with his swindle, and in the latter months of 1912 the newspapers announced that Macaura was expelled from Prussian State Territory on the charge of "attempt to cheat." In Paris he fared even worse, although

DAILY MIRROR Advertisement Announcements Page 15

DR. MACAURA, F.R.S.A.,

Late member of the Royal Institute of Public Health, London, and graduate of the National Medical University of Chicago. Dr. Macaura successfully demonstrated on Thursday and Friday on test patients submitted by Mr. Stead at Clavier Hall to huge and fashionable audiences. The treatments, it is understood, were entirely satisfactory to Mr. Stead and his physicians.

One of Macaura's advertisements appearing in the London *Daily Mirror*. Notice his claim to have been graduated by the National Medical University of Chicago. The official list of the alumni of the National Medical University does not give Macaura's name. If it did Macaura would have nothing to be proud of as this "university" was a night school not recognized by the Illinois authorities.

he found several Parisian papers that were willing to share in the fraud money he obtained from the sick. The public prosecutor accused Macaura of illegal practice of medicine and the quack was arrested on the charge of swindling. The case was decided a few days ago when, according to the Associated Press reports, Gerald Macaura was sentenced to three years' imprisonment and a fine of $600 on a charge of fraud.

After Macaura has served "time" he will probably return to the United States, where he may feel tolerably safe in conducting his quackish operations, provided he does not come in conflict with the federal laws. In fact, the device by which he has swindled so many thousands, has come to the United States ahead of its self-styled inventor. In this country it is not sold as the "Pulsocon" but as the "Cirkulon." The "Cirkulon" is exploited by the Cirkulon Institute, 1109 Grand Avenue, Kansas City, Mo. In Great Britain Macaura's device sold for 38 shillings (about $9.50). When purchased in Kansas City, however, $15 is the price. At present the "Cirkulon" is not being pushed extensively. We may expect three years hence, when its "inventor" is able to put aside his convict's suit and again don civilian garb that an energetic campaign will be started. So long as gullibility remains rampant—so long will swindlers of the Macaura type flourish.

1. "Macaura Comes Back," editorial, THE JOURNAL A. M. A., Aug. 5, 1911, p. 485.

Association News

"MEMBERSHIP" AND "FELLOWSHIP" DEFINED

Members Must Qualify as Fellows to Participate in Scientific Assembly at Annual Session

In order that the distinction between membership and Fellowship in the Association shall be fully understood, attention is called to the following excerpts from the By-Laws:

MEMBERS.—The members in good standing of the constituent state and territorial medical associations of the American Medical Association shall be members (Sec. 1, Chap. VIII).

FELLOWS, ASSOCIATE FELLOWS, HONORARY FELLOWS.—Any member of this Association, who on the prescribed form shall apply for Fellowship and subscribe for THE JOURNAL, paying the annual dues for the current year, shall be a Fellow.

Commissioned medical officers of the United States Army, United States Navy and the United States Public Health Service shall be Fellows of this Association so long as they are engaged actively in their respective service, and thereafter if they have been retired on account of age or physical disability. These Fellows shall not be required to pay dues and shall not receive THE JOURNAL of the American Medical Association except by personal subscription.

There shall be associate and honorary Fellows who shall be elected and shall qualify in accordance with the provisions set forth in these By-Laws.

Members, associate members and honorary members of this Association at the time of the adoption of this By-Law shall be respectively Fellows, associate Fellows and honorary Fellows; and in interpreting these By-Laws, "membership" in the Association at the time of the adoption of this By-Law shall be construed as Fellowship (Sec. 4, Chap. VIII).

As is clearly indicated, the relationship of the individual to the organization is in no wise changed from what it was prior to the 1913 session. The only change is that those who were formerly called "members" are now termed "Fellows." As indicated in the following quotation from the By-Laws, Fellows, in contradistinction to those now holding membership only, are entitled to register at the annual session of the Association:

None but Fellows, associate Fellows, honorary Fellows and invited guests shall be allowed to register or take part in the scientific meetings of the Association.

No Fellow shall be eligible to register at an annual session until he has paid all of his current indebtedness.

No Fellow shall take part in the proceedings of the Association, or of any of the sections, until he has registered his name and address in the registration office (Chap. IX).

Correspondence

How the Eugenic Marriage-Law Works Out

To the Editor:—A great deal has been written on this much-mooted question, but this is probably the first report of the practical working out of the law in two specific cases—specific, both in the practical working out of the law, and specific pathologically and I might say psychopathically.

CASE 1.—A man about 36 years of age came to me, April 17, and told me he was about to be married and wanted me to examine him and sign his marriage certificate.

On my refusal to sign his certificate without his having taken a Wassermann test, he went to one of a group of physicians connected with a certain maternity hospital, who had sent out word to the public through the press that they would sign marriage certificates without the applicant having

to take a Wassermann test. Anyway, one of these physicians signed his certificate, evidently without much energy wasted in a physical examination, and took his three dollars, which is the fee established by the eugenic law. I say "without much energy wasted in a physical examination," because while he was at my office I discovered on a cursory examination a distinct suspicious specific scar. His voice was also suspicious, being husky and guttural. After obtaining the marriage certificate as above stated, he came back to me for advice. I advised him to have a Wassermann taken, and he went to Dr. Hopkinson's laboratory, and the doctor reported to me that it was distinctly positive. When I told him that he had syphilis and should not get married until at least two years from now, he said that he could not help it now, as everything was arranged for the wedding, and asked me what was the next best thing to do. On my advice, he took an intravenous injection of neosalvarsan the day before he was married, which was Friday, April 24. Now, his having syphilis, according to this much-boasted law, should have prevented the marriage ceremony, and my only object in reporting this case is to show that there are physicians in Milwaukee and probably elsewhere in the state who think that they are getting easy money by putting their names to these slips, which is, without doubt, perjury, in some instances.

CASE 2.—This is another example of the manner in which this much-boasted law worked out. While this case has not come directly under my observation, it has appeared in the public press, and is known to all. A woman has been posing and masquerading as a man in Milwaukee for the past ten years. She has held numerous positions of a masculine character, from bell-hop to bookkeeper. She recently developed an unnatural affection of a psychopathic type for another girl, and wanted to marry her. In order to carry out the rulings of the eugenic law, she had to get a certificate that "he" was free from all venereal diseases, from a physician. She went to a physician, who, by the way, is a member of our county and state medical societies, and he signed her certificate, thinking all the time that she was a man.

What kind of an examination could have been made? It is stated in the press that the doctor made a blood examination, but we rarely, or never look for the gonococcus of Neisser in the blood. Both physicians referred to in the above report are members of the Milwaukee County Medical Society.

The certificates provided by the Wisconsin Eugenic Law, read as follows:

> I, _____ being a legally licensed physician, do certify that I have this _____ day of _____, 19____, carefully and thoroughly examined _____, having applied the recognized clinical and laboratory tests of scientific search and find him to be free from all venereal diseases, so nearly as can be determined.

The word "search" in the certificate I have never heard accounted for, but we know that it probably means "research."

Section 7 of the Wisconsin Eugenic law reads as follows.

> Any physician who shall knowingly or willingly make any false statement, in the certificate provided for in Subsection 1, of this section, shall be guilty of perjury, and a conviction under this subsection shall revoke the license of such physician to practice in this state.

What is to stop some innocent victim, a wife, for instance, from bringing suit for damages against the physician for signing a marriage certificate without complying with the law, if she should develop syphilis or gonorrhea from her newly married husband? All she will need is the proof, which can easily be obtained if these physicians continue to take "easy money" without proper and necessary examination. In the name of common decency, if we are to have such a law, let us uphold it, and not make ourselves the laughing-stock of the public.

The following comment from the Milwaukee *Free Press* shows the layman's attitude on the subject:

> The eighteenth century, in spite of its boasted "reign of reason," was gullible to a degree. Theophile Gautier stands second to no writer in *raffinement* of imagination. Yet we doubt that the gullibility of the one or the imagination of the other would have been equal to swallowing or inventing anything equal to this seriocomic defeat of a eugenic marriage law in twentieth century Wisconsin.
>
> Were not the subject so desperately ticklish, one might long for the pen of an Aristophanes, a Plautus or a Jonson to turn this sex adventure into a blazing satire on the folly of half-baked and half-enforced legislation.

The whole medical profession suffers when one or more of its members persist in slipshod and unethical methods. I will say this to the credit of the Wisconsin medical societies, both county and state, that not one of the five physicians now awaiting trial for abortion, here in Milwaukee, belongs to the medical societies. And I am glad to say that this speaks well for the morality of the greater number of the medical men in Wisconsin.

A. J. CAFFREY, M.D., Milwaukee, Wis.

The Tuberculosis Problem

To the Editor.—I am extremely interested in the articles on "The Tuberculosis Problem" which have been appearing in THE JOURNAL (Department of Therapeutics, March 14 to April 25). They contain a great deal of information of importance to the general medical profession and are very timely. I disagree, however, with a statement which is of far-reaching significance and which should not be left unchallenged.

In considering a case of tuberculosis in a home as a source of infection to those who live in it, great emphasis is laid on the communicability of the disease to children. Close contact of children with tuberculous persons is regarded, in this article, as a factor in the incidence of active tuberculosis among children, which infection either results fatally or, in a majority of cases, becomes latent, these latent foci constituting the determining factor in the production of active tuberculosis in adults.

In emphasizing this theory of von Behring's, the article falls into the error of minimizing the danger of tuberculous infection in adult life to the point of suggesting that even the term "communicable" ought to be modified or more carefully explained. It is our experience, however, that close contact with uncontrolled "open" cases of tuberculosis in homes does lead to infection of adults, as shown by the everyday experiences of tuberculosis workers, dispensaries, sanatoriums, etc., all over the land.

The tentative theory (not fully proved) is that infection in childhood is *one* of the important factors determining the incidence of tuberculosis among adults. The repeated infections of the adult by an uncontrolled tuberculous case in a home is, however, also a factor of importance in causing the existing prevalence of tuberculosis. The implantation of the germ in the child should be prevented; it should also be prevented in the adult (be he a carrier of latent foci or not). Should the statement made in your Department of Therapeutics be correct, patients with advanced cases of tuberculosis ought to be hospitalized only in instances in which children are in contact with the source of infection. Our present arrangement is designed, however, to give protection not only to the child but to the adult as well.

I greatly appreciate the educational value of these important articles on the tuberculosis problem, and yet I consider it my duty to raise the question in reference to the above-mentioned important point.

THEODORE B. SACHS, M.D., Chicago.

[COMMENT.—It was not intended to convey the idea that open tuberculosis cases could not convey infection to adults, and it was hoped that the entire discussion emphasized the proper care that such patients should receive, not only for their own sake, but also to prevent the infection of others. It was intended to declare the belief that by far the greatest danger in infection of others is to children, and that an intelligent adult, under medical supervision and having received, and acting under careful instructions, is a menace to no one, unless he is helpless and in bed, in which case it is the nurse who should act under instructions.

Dr. Sachs' letter is welcomed, as evidently these points were not made plain.—ED.]

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

MEDIUMS FOR OIL-IMMERSION LENSES

To the Editor:—Is there any reason why one should not use glycerin with an oil-immersion lens in microscopy? It is much easier to clean from the lens and slide after using than the usual cedar oil. Unless it can be harmful to the lens in some manner, I do not see why it is not more in use. I have used it for some time.

M. A. LEE, M.D., Superior, Wis.

ANSWER.—Objectives intended for immersion are specially corrected for the specific medium to be employed. Four mediums have been used: water, cedar oil, monobromid of naphthalin and glycerin. Water has a refractive index of 1.33, and when used with ordinary glass, must have a correction applied. The objective will not receive so many rays from the object when used with cedar oil, whose refractive index is 1.52, nearly the same as that of the glass employed for the cover-glass. Monobromid of naphthalin has a higher refractive index, 1.567, and special flint cover-glasses must be employed with it. Glycerin has a refractive index of 1.478, which is not far from the refractive index of the ordinary cover-glass, so that it probably could be used without much inconvenience.

THE MOSZKOWICZ TEST

To the Editor:—Please describe the methods of Moszkowicz and Sandrock for examination to determine where to operate in gangrene, etc.

HORACE FOX, M.D., Bath, Me.

ANSWER.—The test of Moszkowicz is applied as follows: The affected limb is elevated until a marked pallor of the skin occurs. A circular, broad, elastic bandage is applied around the thigh as high up as possible, and the constrictor is allowed to remain in place five minutes. When the constrictor is removed, the hyperemic blush spreads over the limb but is much less intense as the ischemic areas of the foot or leg are approached. The contrast between the red and pale areas is marked in proportion with the extent of the arterial obstruction. An operation within the pale zone is likely to end in a sloughing of the flaps, but amputation may be made with safety anywhere within the line of the pink or hyperemic skin. This method is not accepted as reliable by all authorities.

We are unable to give the Sandrock method.

STATES WHICH RECIPROCATE WITH MAINE

To the Editor:—What states have reciprocal relations with Maine?

F. J. M.

ANSWER.—Maine has reciprocal relations with Arkansas,* Colorado,* Delaware,* District of Columbia,* Georgia, Illinois,* Indiana, Iowa, Kansas, Kentucky, Louisiana,* Maryland,* Michigan, Minnesota,* Missouri, Nebraska, New Jersey,* Ohio, South Carolina, Tennessee, Texas,* Utah, Vermont,* Virginia,* Wisconsin and Wyoming.* Those marked with an asterisk (*) reciprocate on the basis of an examination only; the others reciprocate on the basis either of an examination or of a diploma from a reputable medical college without examination if the diploma and license were granted prior to July 1, 1901.

An Estimate of the Scientist.—When the intellectual history of this time comes to be written, nothing I think will stand out more strikingly than the empty gulf in quality between the superb and richly fruitful scientific investigations that are going on and the general thought of other educated sections of the community. I do not mean that the scientific men are as a whole a class of supermen, dealing with and thinking about everything in a way altogether better than the common run of humanity, but that in their own field they think and work with an intensity, an integrity, a breadth, boldness, patience, thoroughness and faithfulness that (excepting only a few artists) puts their work out of all comparison with any other human activity.—H. G. Wells, "Marriage."

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARIZONA: Phoenix, July 7-8. Sec., Dr. John Wix Thomas, Phoenix.

CALIFORNIA: Los Angeles, June 16. Sec., Dr. C. B. Pinkham, 135 Stockton St., San Francisco.

COLORADO: Denver, July 7. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

DELAWARE: Dover and Wilmington, June 16-18. Sec., Dr. H. W. Briggs, 1026 Jackson St., Wilmington.

FLORIDA: Palatka, June 17-18. Sec., Dr. E. W. Warren, Palatka.

GEORGIA: Atlanta and Augusta, June 3. Sec., Dr. C. T. Nolan, Marietta.

IOWA: Iowa City, June 11-13. Sec., Dr. Guilford H. Sumner, State House, Des Moines.

KANSAS: Kansas City, June 9-12. Sec., Dr. H. A. Dykes, Lebanon.

KENTUCKY: Louisville, June 15-17. Sec., Dr. A. T. McCormack, Bowling Green.

LOUISIANA: New Orleans, June 4-6. Sec., Dr. E. L. Leckert, Macheca Bldg., New Orleans.

MAINE: Augusta, July 7-8. Sec., Dr. Frank W. Searle, 776 Congress St., Portland.

MARYLAND: Baltimore, June 15. Regular Board: Sec., Dr. J. McP. Scott, Hagerstown. Homeopathic: Baltimore, June 15. Sec., Dr. O. N. Duvall, 1817 N. Fulton Ave., Baltimore.

MICHIGAN: Ann Arbor, June 9. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: Minneapolis, June 2-5. Sec., Dr. Thomas S. McDavitt, 814 Lowry Bldg., St. Paul.

MISSISSIPPI: Jackson, June 16-17. Sec., Dr. E. H. Galloway, Jackson.

MISSOURI: St. Louis, June 15-17. Sec., Dr. J. A. B. Adcock, Jefferson City.

MONTANA: Helena, June 30-July 2. Sec., Dr. Wm. C. Riddell, Helena.

NEW HAMPSHIRE: Concord, July 1-2. Regent, Mr. H. C. Morrison, Concord.

NEW JERSEY: Trenton, June 15-16. Sec., Dr. H. G. Norton, 429 E. State St., Trenton.

NEW YORK: June 23-26. Chief of Examinations Division, Mr. Harlan H. Horner, Department of Education, Albany.

NORTH CAROLINA: Raleigh, June 9. Sec., Dr. Benj. K. Hays, Oxford.

NORTH DAKOTA: Grand Forks, July 7. Sec., Dr. G. M. Williamson, Grand Forks.

OHIO: Columbus, June 2-5. Sec., Dr. George H. Matson, State House, Columbus.

OREGON: Portland, July 7-9. Sec., Dr. L. H. Hamilton, Medical Bldg., Portland.

PENNSYLVANIA: Philadelphia, June 1-3. Sec., Mr. Nathan C. Schaeffer, Harrisburg.

RHODE ISLAND: Providence, July 2-3. Sec., Dr. Gardner T. Swarts, State House, Providence.

SOUTH CAROLINA: Columbia, June 9. Sec., Dr. A. Earle Boozer, 1802 Hampton Ave., Columbia.

TEXAS: Austin, June 23-25. Sec., Dr. W. L. Crosthwait, Waco.

VIRGINIA: Richmond, June 23-26. Sec., Dr. Herbert Old, Norfolk.

WASHINGTON: Seattle, July 7. Sec., Dr. C. N. Suttner, Baker Bldg., Walla Walla.

WEST VIRGINIA: Elkins, July 1. Sec., Dr. S. L. Jepson, Wheeling.

WISCONSIN: Milwaukee, June 29. Sec., Dr. John M. Beffel, 3200 Clybourn St., Milwaukee.

WYOMING: Laramie, July 9-11. Sec., Dr. H. E. McCollum, Laramie.

Missouri Reciprocity Report

Dr. J. A. B. Adcock, secretary of the Missouri State Board of Health, reports that 38 candidates were licensed through reciprocity from May 1 to Dec. 10, 1913. The following colleges were represented:

College	Year Grad.	Reciprocity with
University of Colorado	(1911)	Colorado
Georgia College of Eclectic Med. and Surg.	(1905)	Georgia; (1911) Georgia; (1912) Georgia.
Hospital Medical College, Eclectic, Atlanta	(1910)	Georgia
Northwestern University	(1911)	Illinois
Rush Medical College (1881)	Iowa; (1884)	Louisiana; (1893) Kansas
Medical College of Indiana	(1905)	Indiana
State University of Iowa, Coll. of Homeo. Med.	(1908)	Iowa
State University of Iowa, Coll. of Med.	(1906)	Iowa; (1910) Iowa; (1912) Iowa.
University of Kansas	(1906)	Kansas; (1911) Kansas; (1912) Kansas; (1912) Kansas.
University of Louisville	(1905)	Illinois; (1910) Kansas
Johns Hopkins University	(1907)	Maryland; (1911) Maryland
Barnes Medical College	(1910)	Illinois
Ensworth Medical College	(1911)	Nebraska
Homeopathic Medical College of Missouri	(1908)	Illinois
Kansas City Hahnemann Medical College	(1905)	Kansas; (1912) Kansas.
Kansas City Medical College	(1895)	Kansas
St. Louis University	(1908)	Illinois
Washington University	(1906)	Illinois
University Medical College, Kansas City	(1903)	Kansas; (1905) Kansas; (1910) Kansas.
John A. Creighton Medical College	(1906)	Iowa; (1912) Nebraska
Cornell University	(1903)	Kansas
University of Cincinnati	(1899)	Nevada
University of Nashville	(1903)	Texas

Book Notices

CHRONIC COLITIS: ITS CAUSATION, DIAGNOSIS AND TREATMENT. By George Herschell, M.D., and Adolphe Abrahams, M.D., Medical Registrar to the London Temperance Hospital. Cloth. Price, $2. Pp. 273. New York: Longmans, Green & Co., 1914.

A careful study of a single disease by the refined diagnostic means of modern research is presented in this book. The physician of a past generation could shrewdly guess that his patient who complained of chronic diarrhea with pain and occasionally bloody stools was suffering from colitis, but he did not dream of such a condition when constipation was the principal symptom. In such cases he had no reliable means of examination which would determine whether or not his surmise was correct. The symptoms were often referred to nervousness and, indeed, a large number of cases passed under the name of colica mucosa as due to a purely nervous secretion of mucus. The authors base their description of the disease on the results of examinations by the sigmoidoscope and the laboratory methods of examination of the feces. The methods of diagnosis are systematic, but sometimes lacking in detail. Although the statement is made that "one can not only palpate the colon, but can determine its exact position, its condition of emptiness or fulness, etc.," no directions for making such an examination are given except a reference to the work of Vincent. The directions for the examination of the feces are reasonably full. About half the work is given to the subject of treatment. The removal of a probable cause is insisted on, and due credit is given to diseases of the teeth, the nasopharynx and the stomach as causes of the intestinal affection. The consideration of the diet is especially thorough and detailed. Minute directions are given for the use of enemas, irrigations, etc. The question of the possibility of entering the colon by a soft tube is presented and the opposing opinions of Combe and of Kemp are quoted, but no decision is given. A long list of medicinal agents is mentioned which are supposed to act as intestinal antiseptics, and their actions and classification according to Combe are described. Here again the opinion of Combe is quoted, but the authors give no final decision, although they seem inclined to favor the opinion that these agents act as efficient intestinal antiseptics. The untenability of the opinion that charcoal cures flatulence by absorbing gases is recognized, but the authors think that it is efficient against flatulence by some unexplained action on the intestinal wall. Practically no proprietaries are mentioned except such as have received general approval like ichthyol, aspirin, etc. The authors state that so far as they know theirs is the first English manual that has appeared on this subject, and they are to be congratulated on having produced a book of so high a grade which at the same time is so adequately adapted to the needs of the general practitioner. It is gratifying to note the care with which they acknowledge the sources of their information and the considerable extent to which they have made use of the work of American investigators.

A TEXT-BOOK OF HISTOLOGY ARRANGED ON AN EMBRYOLOGICAL BASIS. By Dr. Frederic T. Lewis, Assistant Professor of Embryology at the Harvard Medical School and Dr. Philipp Stöhr. Second Edition. Cloth. Price, $3 net. Pp. 539, with 495 illustrations. Philadelphia: P. Blakiston's Son & Co., 1914.

This book, which is largely the work of Lewis and retains but little of Stöhr's original text, is arranged on an embryologic basis, the development of each organ being described as an introduction to the study of its microscopic structure in the adult. This method of presentation, which is a new departure in text-books on histology, is logical and pedagogically practicable. It proceeds from simple arrangements to those which are complex, and it emphasizes fundamental features in distinction from those which are secondary. Anatomy is likewise accorded an important place. References to a selection of recent papers are given. The general arrangement is similar to that of other works on this subject. There is a chapter on microscopic technic. The illustrations are numerous and good.

Medicolegal

Construction of Pure-Food Law with Reference to Adulteration

(United States vs. Lexington Mill & Elevator Co. (U. S.), 34 Sup. Ct. R. 337)

The Supreme Court of the United States says that the statute on its face shows that the primary purpose of Congress was to prevent injury to the public health by the sale and transportation in interstate commerce of misbranded and adulterated foods. The legislation, as against misbranding, intended to make it possible that the consumer should know that an article purchased was what it purported to be; that it might be bought for what it really was, and not on misrepresentations as to character and quality. As against adulteration, the statute was intended to protect the public health from possible injury by adding to articles of food consumption poisonous and deleterious substances which might render such articles injurious to the health of consumers.

The fifth subdivision of Section 7 provides that food shall be deemed to be adulterated "if it contain any added poisonous or other added deleterious ingredient which may render such article injurious to health." Congress has here definitely outlined its inhibition against a particular class of adulteration. It is not required that the article of food containing added poisonous or other added deleterious ingredients must affect the public health, and it is not incumbent on the government in order to make out a case to establish that fact. The act has placed on the government the burden of establishing, in order to secure a verdict of condemnation under the statute, that the added poisonous or deleterious substances must be such as may render such article injurious to health. The word "may" is here used in its ordinary and usual signification.

In thus describing the offense, Congress doubtless took into consideration that flour may be used in many ways, in bread, cake, gravy, broth, etc. It may be consumed, when prepared as a food, by the strong and the weak, the old and the young, the well and the sick; and it is intended that if any flour, because of any added poisonous or other deleterious ingredient, may possibly injure the health of any of these, it shall come within the ban of the statute. If it cannot by any possibility, when the facts are reasonably considered, injure the health of any consumer, such flour, though having a small addition of poisonous or deleterious ingredients, may not be condemned under the act.

This court affirms the judgment of the circuit court of appeals reversing a decree condemning certain flour as adulterated by bleaching because the trial court permitted the statute to be read without the final and qualifying words concerning the effect of the article on health, rendering a new trial necessary.

Time for Commencement of Action for Being Made a Morphin User

(Gillmore vs. Gillmore (Kan.), 137 Pac. R. 958)

The Supreme Court of Kansas holds that an action for damages because of the defendant having induced the plaintiff to become a user of morphin, in ignorance of its nature, is not for relief on the ground of "fraud," within the meaning of that term as used in the statute of limitations. The running of the statute of limitations, on an action for damages because of the defendant having induced the plaintiff to become a user of morphin, is not wholly suspended by the fact that the plaintiff, knowing the manner in which the habit was induced, and having acquired knowledge of the effects of the drug, has been so affected mentally as not to be capable of protecting his own interests. Such an action can be brought only within one year from the time that mental capacity is restored, under the Kansas statute of limitations.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, ATLANTIC CITY, JUNE 22-26.

American Academy of Medicine, Atlantic City, June 19-21.
American Climatological Association, Atlantic City, June 19-20.
American Gastro-Enterological Association, Atlantic City, June 22-23.
American Laryn., Rhin., and Otol. Society, Atlantic City, June 19-20.
American Orthopedic Association, Philadelphia, June 18-20.
American Proctologic Society, Atlantic City, June 22-23.
American Urological Association, Philadelphia, June 18-20.
Conf. of State and Prov. Boards of N. America, Washington, June 19-20.
Maine Medical Association, Portland, June 10-11.
Massachusetts Medical Society, Boston, June 9-10.
Montana State Medical Association, Lewistown, July 8-9.
New Jersey Medical Society, Spring Lake, June 29.
North Carolina Medical Society, Raleigh, June 16.
Rhode Island Medical Society, Providence, June 4.

AMERICAN ASSOCIATION OF PHYSICIANS

Twenty-Ninth Annual Meeting, held at Atlantic City, N. J., May 12 and 13, 1914

The President, DR. SIMON FLEXNER, New York, in the Chair

Officers

The following officers were elected for the ensuing year: president, Dr. S. J. Meltzer, New York; vice-president, Dr. Henry Sewall, Denver; secretary, Dr. George M. Kober, Washington, D. C., reelected; recorder, Dr. Thomas McCrae, Philadelphia, reelected; treasurer, Dr. J. P. Crozer Griffith, Philadelphia, reelected.

Advance in Medical Knowledge

DR. SIMON FLEXNER: The extension of the boundaries of knowledge has compelled medical colleges to become departments of universities. This rapid extension of knowledge coincided with the active pursuit of physiology, pathology, bacteriology and pharmacology, either alone or in association with clinical studies for which special laboratories and institutes came to be established. Independent institutions for medical research have exercised a distinct influence on medical practice, but the foundation of these institutions was impossible until medical schools furnished an adequate supply of students whose training approximated that of the older European countries. All these conditions have acted more powerfully on clinical teaching. The professor of medicine in the university medical school ceased long ago to be a general practitioner. The function of the clinical teacher has been newly defined within one or two decades. The American Association of Physicians has sympathized with every movement affecting the progress of medical education, and it favors this latter step with the single hope that if it be in the real interest of medical progress, it may be given a chance to succeed.

Chronic Interstitial Gastritis

DR. JOSEPH SAILER, Philadelphia: A man, aged 45, had been subjected to various forms of medical treatment, without avail. An exploratory operation showed the condition of the stomach entirely in accord with the clinical picture. The stomach walls were very thick. The stomach was adherent posteriorly and around the pylorus. Gastro-enterostomy would have been difficult, in addition to giving no definite relief. There were no enlarged glands along the lesser curvature, but the adhesions were dense along the greater curvature, and a definite gland mass could not be felt. There was no evidence of metastasis. The abdomen was closed and the patient made a satisfactory recovery from the exploratory operation.

DISCUSSION

DR. DAVID RIESMAN, Philadelphia: Recently I saw a typical case of leather-bottle stomach which was very malignant, because the patient had cachexia and ascites. Both of these conditions in this case were sufficient to determine that the condition was cancerous. The man died in a few weeks. There were no evidences of metastases in the liver, and the liver was not enlarged at any time. Another case that came to necropsy showed no metastases from any of the viscera, but marked enlargement of the glands along the greater curvature of the stomach.

The Nature of Peristalsis and the Action of Magnesium Sulphate

DR. S. J. MELTZER, New York: Peristalsis is a complicated condition in which the phenomenon of inhibition plays an important part, and magnesium sulphate acts by affecting this inhibitory force.

Clinical Study of One Thousand Cases of Gastric Cancer

DR. JULIUS FRIEDENWALD, Baltimore: The cases occurred in 10,416 patients, affected with various gastro-intestinal disturbances. The maximum liability to the disease occurred between the fortieth and sixtieth years. The greatest proportion of cases occurred in males, 588 to 412 females. A hereditary history of cancer appeared in 9.4 per cent. of cases, a history of trauma in 1.9 per cent., and anemia was present in 82 per cent. Chronic endocarditis was present in 11.4 per cent., arteriosclerosis in 69.6 per cent. A history of former indiscretions in diet was obtained in 32.1 per cent.; of alcoholism in 15.2 per cent.; of syphilis in 7.9 per cent.; hyperchlorhydria in 4.9 per cent.; hypochlorhydria in 2.8 per cent., and anacidity in 89.2 per cent. Lactic acid was present in 81.9 per cent. Oppler-Boas bacilli were obtained in 79.3 per cent. Dysphagia existed in 6.9 per cent. of all cases. Loss of weight existed in 88.5 per cent. Anorexia was present in 89.3 per cent., and vomiting in the same percentage. Occult blood was present in the stools in 92.5 per cent. Masses in the form of tumors were detected in 71.9 per cent. Dilatation of the stomach existed in 46.7 per cent. Perforation occurred in 2.3 per cent. Metastasis existed in 67.2 per cent.

When and How to Use Tuberculin Preparations in Private Practice

DR. S. SOLIS-COHEN, Philadelphia: My modification of Latham's method: tuberculin residue (T. R.) triturated with milk-sugar is given with skim-milk, whey or beef-juice. The initial dose is 0.000001 mg. Both subjective and objective symptoms of reaction are watched for. The dose is repeated once or twice weekly, according to result. It is gradually increased by increments of 0.000001 mg. to the reaction-point, and then dropped one point lower, and so continued for some weeks. Later, a further increase is attempted, and if reaction is not shown, is proceeded with in a similar gradual way. The arbitrary increment of 0.000001 mg. is maintained during this remittent progression, until 0.0001 mg. has been reached. After that, the increment may be raised to 0.00001. Thus by successive stages, a maximum dose is attained at a point determined for each individual by all the factors in the case, including the rapidity of increase, character and intensity of reaction and maintenance of tolerance, as well as the focal and general signs of improvement. The treatment is continued with intermissions, for many months, and may be resumed, if necessary, from time to time over a period of years.

In the majority of advanced cases tuberculin is likely to be harmful. Experienced observers may employ it cautiously under conditions that seem to call for its use, but others should avoid it, especially in cases which show a tendency to continuous fever, or in which there is, or has been recently, active softening. In the great bulk of early cases it is needless. Under proper treatment, medicinal as well as hygienic recovery will take place without it. Its field of action is in the treatment of cases which have not passed beyond the stage of infiltration and which have shown a certain degree of improvement under proper food, fresh air, judicious rest and exercise, and other approved measures, including the right drugs, but in which improvement becomes sluggish or ceases, or retrogression takes place. The slight additional stimulus afforded by an appropriate tuberculin preparation administered at well-chosen times, and in correct dosage, will often reawaken the defensive and restorative processes of the organism, and be followed by complete recovery.

DISCUSSION

DR. ABRAHAM JACOBI, New York: I have used tuberculin in doses of from 0.00001 up to 0.0002, and I have never seen any unpleasant symptoms. I have given it in combination with other treatments or remedies. My routine treatment in chronic cases of pulmonary tuberculosis consists in the internal administration of guaiacol and arsenic with tuberculin, and I have observed no disagreeable symptoms which I could attribute to the tuberculin.

(*To be continued*)

LOUISIANA STATE MEDICAL SOCIETY

Thirty-Fifth Annual Meeting, held at New Orleans, April 20-23, 1914

(*Concluded from page 1587*)

Autoplastic Bone-Grafting

DR. JOHN F. OECHSNER, New Orleans: Autogenous transplantation of bone is an established surgical procedure. Whether dependent for growth on periosteum, or on the graft as a scaffolding for the development of blood-vessels, transplants for the present should be provided with both, particularly plenty of periosteum. Non-absorbable suture material had better be avoided, whenever possible, dovetailing and absorbable material being used in their stead. It is highly probable that organized bone-tissue will take the place of foreign material now used in fractures. Bone-grafting should never be done in the presence of an active infection. The most rigid asepsis should be exercised. Bone-grafts owe their virility and ultimate success probably to the rapidity of blood-vessel development plus the presence of osteoblasts wherever they may be.

Modern Diagnostic Methods in Genito-Urinary Surgery

DR. H. W. E. WALTHER, New Orleans: The foundation of diagnostic methods in genito-urinary surgery is urinalysis. We have in the Buerger cysto-urethroscope an instrument by means of which it is possible to obtain absolutely true pictures of the bladder-neck and the posterior urethra. The relatively modern progress attained in perfecting the technic of kidney, ureteral and vesical surgery has made the use of the cystoscope and the ureteral catheter a necessity in the diagnosis of all bladder, ureteral and kidney lesions as well as in the differential diagnosis of many abdominal conditions. The newer methods for determining the functional capacity or activity of the kidneys include cryoscopy, the estimation of the electrical conductivity of the urine, the production of temporary glycosuria by the subcutaneous injection of phlorizin, the production of experimental polyuria and chromocystoscopy, that is, the elimination by the kidneys of certain color substances, as methylene blue, indigocarmin and phenolsulphonephthalein. Pyelography is helpful in demonstrating the normal kidney pelvis; the amount of dilatation of the pathologic pelvis; the position of the outlet of the pelvis of the kidney; the condition of the calices and pyramids; localization of shadows within the kidney; the differentiation of abdominal tumors and extrarenal shadows; congenital deformities of the kidney, and the condition of the ureters.

Treatment of Bladder Tumors by the High-Frequency Current

DR. JOSEPH HUME and DR. SAMUEL LOGAN, New Orleans: We have treated ten cases embracing almost every form of tumor encountered in bladder growths. In 4 cases of papilloma, 3 patients are apparently well, and 1 has just begun treatment; in 4 cases of malignant papilloma, 1 patient has gone home apparently cured, 2 are still under treatment, and 1 died during treatment from nephritis; in 2 cases of cancer, one patient dying from nephritis, the tumor when last seen was controlled; and one patient is still under treatment, seemingly better.

Pituitary Extract in Obstetric Practice

DR. M. THOMAS LANAUX, New Orleans: Pituitary extract should not be given in normal labor. Its use should be limited to cases of primary or secondary inertia, to postpartum hemorrhages and in cesarean sections as a substitute for ergot. In cases of inertia in any stage of labor it should not be employed unless anesthesia is at hand for immediate use and preparation has been made for immediate delivery. When obstructions exist in the second stage of labor, small tentative doses of pituitary extract can be given, not with complete delivery by means of the drug in view, but to bring the head within easy reach of a single simple forceps delivery. In the second stage of labor it is a most valuable addition to our resources for the treatment of inertia.

Cancer

DR. C. JEFF MILLER, New Orleans, introduced the following resolution, which was adopted:

Resolved, That the society approves of a public educational campaign for the control of cancer and endorses the purposes of the American Society for the Control of Cancer.

It urges the State Board of Health to open its laboratories for the examination of tissue and to supply through its bulletin the necessary details for collecting and mailing specimens, and that the society appoint a permanent committee on cancer that shall collect data, furnish as a committee articles for the lay press, and encourage the study of cancer throughout the state.

DR. F. W. PARHAM, New Orleans: Primary cancer of the small intestine in at least 40 per cent. of cases gives rise to obstruction much earlier than in the case of the large intestine. Sixteen cases of operation before complete occlusion gave a mortality of 18.7 with 13 cures; 10 cases after occlusion gave 70 per cent. mortality with only 3 cures.

DR. ISADORE DYER, New Orleans: It is difficult to catalogue all the lesions of the skin which might be listed under the title of precancerous lesions of the skin, for the reason that experience shows that almost any inflammatory process with destruction of tissue may end in carcinoma.

DR. WILLIAM H. HARRIS, New Orleans: A specific histopathologic picture for the so-called precancerous stage has not been recognized by pathologists, but a careful cooperation between the surgeon and the pathologist in such considerations is capable of bringing forward information of equal value to the patient as if the precancerous stage were a definite entity.

DR. WILLIAM KOHLMANN, New Orleans: Since 1908 I have performed the radical (Wertheim) operation for carcinoma of the uterus in thirty-two cases, and a good number of these patients have been far beyond the stage at which a cure could be expected. Only a very few of them have been clearly within the limit that may be called operable, and these have been operated on only in the last three years. In the years 1908 and 1909 I operated on thirteen patients; three died, three were temporarily improved, and seven were free from symptoms for one or two years. They were all advanced cases.

Gunshot Wounds of the Abdomen

DR. J. G. MARTIN, Lake Charles: I have operated in two cases successfully. One had a perforation of the small intestine and of the bladder. The other had three perforations of the ileum and one of the transverse colon. In the latter case, in which I operated about one hour after the receipt of the injury, the patient would have died from hemorrhage, if not from peritonitis, as active bleeding was going on from one of the mesenteric vessels.

Treatment of Compound Fractures

DR. L. B. CRAWFORD, New Orleans: I favor the use of Lane plates in the treatment of these fractures. My results in four cases strengthen my conviction that this method of treating compound fractures is worthy of some note.

Postoperative Management of Surgical Cases

DR. E. DENEGRE MARTIN, New Orleans: Results depend on a more intimate knowledge of patients, the better management of operations, and on the exercise of judgment, which can be gained only by experience—not the mistaken experience of the useless administration of unnecessary drugs, but the experience of non-interference.

THE AMERICAN DERMATOLOGICAL ASSOCIATION

Thirty-Eighth Annual Meeting, held in Chicago, May 14-16, 1914

The President, DR. JAMES MACFARLANE WINFIELD, Brooklyn, in the Chair

Officers Elected

The following officers were elected for the coming year: president, Dr. S. Pollitzer, New York; vice-president, Dr. Martin F. Engman, St. Louis; secretary and treasurer, Dr. Oliver S. Ormsby, Chicago. Place of next meeting, New York.

Teaching of Dermatology—The Care of Lepers

DR. JAMES MACFARLANE WINFIELD, New York: Dermatology is coming into its own, and is being recognized among medical men as one of the most scientific, difficult and important of the medical specialties; but in spite of that even now there are comparatively few schools that teach the subject properly. The time has come when we of dermatologic thought and teaching should make a united effort to improve and unify the teaching of skin diseases. It should be our endeavor to do everything possible to correct the custom that still prevails in many of our medical schools of having syphilis taught by the chair of genito-urinary diseases. Granting that syphilis is a constitutional systemic disease, the cutaneous specialist is the one who is trained to recognize its varied manifestations. Is it not logical that he would also be better able to teach it than any one else? We may look still farther beyond, and begin to advocate now the establishment of a special department and chair of syphilology in all of our medical schools and hospitals, in order that the whole subject may be taught systematically by men especially trained for this work. Owing to the influx of people from those countries where leprosy is endemic, and the increased number of these cases in the United States it would seem to me that this association should join hands with other medical bodies in urging on the United States government the necessity for a national law and the establishment of a national home or homes for lepers. I would therefore suggest that a committee of this association be created to draft a memorial to be presented to the President of the United States, and the Senate and House of Representatives, setting forth the dangers of the leper at large, and urging the need of his detention in a place under national control, where he could receive the proper care, and where scientific investigations could be carried on with a view to the relief of the unfortunate himself, the prevention of the further spread of the disease, and the eventual eradication of it from the world.

[In accordance with this recommendation a permanent committee on leprosy was appointed and the association adopted resolutions as recommended by the president.]

PARONYCHIA: ETIOLOGY AND TREATMENT

DR. HOWARD MORROW and DR. A. W. LEE, San Francisco: In considering the subject of paronychia, we shall limit it to an inflammation of the nail-bed and nail-fold due to organisms apart from those considered to be the etiologic factors in lues, tuberculosis, tinea, blastomycosis, etc. Of sixteen cases studied by us, two were acute and fourteen of long standing, and all have been caused, as shown culturally, by the *Staphylococcus pyogenes albus*. No definite conclusions could be drawn from this limited number of cases as to whether age, sex or occupation bears any distinct relation to the pathologic condition. Thirteen of these cases remained as uncomplicated paronychia, while three progressed to onychia, with exfoliation of the nail. In only one case did the pathologic condition involve the feet, and in this case all of the toes were affected. Of the hand cases, all the nails were involved in only two instances, and the remainder varied from one to six diseased nails. In fourteen of the cases the condition started about the nails and remained confined to that location until cured. In two cases the disease was secondary to pyogenic dermatitis on other portions of the body. In each case it was possible to obtain from the lesions a pure culture of the *Staphylococcus pyogenes albus*, and, singularly enough, no other organisms grew on the culture mediums employed, namely, blood-serum and agar. Notwithstanding this experience, it is probable that the *Staphylococcus pyogenes aureus* is responsible for a certain percentage of cases.

For some years we have followed the treatment by ointments, compresses, powders and, in recent years, by vaccines. A large percentage of the cases treated by these measures have given unsatisfactory results, probably because of the fact that aside from vaccines these applications do not penetrate into the affected areas. In our hands vaccine therapy did not give the same satisfactory results as the method to be described. The preparation used with the greatest amount of success was a saturated solution of chrysarobin in chloroform. This combination was found more satisfactory than the usual preparation of chrysarobin with a fatty base. The reason for using chloroform as a menstruum is that it has a high tissue-penetrating index. The reason for using chrysarobin is that it has a high staphylococcic bactericidal influence. The following method of using this preparation was employed: The plica unguis should be raised from the nail and the affected area swabbed with the chrysarobin preparation. This should be done once daily until there is no longer any pus formation. The latter condition usually subsides after a few applications. It must be remembered, however, that chrysarobin occasionally causes an intense dermatitis, even after one application, and in such cases this treatment should be pursued with caution. By this method all of our patients were cured in from one to three weeks.

DISCUSSION

DR. CHARLES J. WHITE, Boston: Paronychia is not a particularly common infection in the Massachusetts General Hospital, but when we do see it, it is very apt to be in Jewish housewives. The explanation for this apparently is that they are not allowed to use soap in the washing of their dishes for fear that there may be some pig fat in the composition of the soap.

DR. A. RAVOGLI, Cincinnati: I have seen a great many cases of eczema of the nail-bed, which I would not exactly call paronychia, because there was not suppuration, but only a little oozing, with swelling and formation of a crust around the nail-bed. These cases I have found to be exceedingly stubborn. I have seen these cases in women employed in factories, and also in those who use the typewriter. The nail has very seldom been affected in these cases. I have also had some cases of true paronychia, with a great deal of suppuration present, and also raising up of the nail, but in these cases incision and removal of the pus have given good results. To correct the eczematous condition referred to, I have found the application of a tincture of iodin, going inside the nail-bed, in the fold of epidermis, a very good measure.

DR. D. W. MONTGOMERY, San Francisco: A great number of these cases are certainly due to the streptococcus. In order to get a culture of the streptococcic infective agent, though, it is necessary to cultivate it anaerobically. The suggestion made by Jadassohn is of very great importance, namely, to use a platinum needle of exceeding fineness, and drive down into the culture-medium, so that you get an anaerobic cultivation—otherwise it dies out. The suggestion of Sabouraud of cultivating a streptococcus by a blood-medium, excluding the air by a device of an attenuated culture-tube, finely drawn out, in my opinion is not nearly so good as that of Jadassohn. Of course, I recognize also that paronychia is very frequently an accompaniment of eczema.

DR. GEORGE H. FOX, New York: Some one has recently called attention to manicuring the nails and perhaps overrated the evil results from it; but recently the newspapers even in New York have had a number of special articles on the question of forcing the manicurists to obtain licenses, on account of the bad results from their work.

DR. HOWARD MORROW, San Francisco: As referred to by Dr. Ravogli, applications of tincture of iodin are very efficacious, as are also those of silver nitrate.

(To be continued)

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Eighth Annual Meeting, held in New York City, April 28-30, 1914

(Continued from page 1686)

Uterine Hemorrhage in Young Girls

DR. HENRY C. COE, New York: In the absence of any discovered cause for the hemorrhage, local or general, the practitioner is thrown back on experimental medicine and must interrogate rigidly the ductless glands, with more or less doubtful results. Organotherapy must be regarded as the best curative agent along this line. The prognosis must depend on the actual or supposed cause of the condition. Care should be exercised in making caustic applications to the endometrium which are not absolutely controllable and may cause irreparable injury to the delicate organ in subjects of tender years. One of my colleagues has had success in the treatment of obstinate hemorrhage in young women by ligation of the uterine arteries by the vagina which is practically out of the question in young children. I can conceive of cases in which exploratory abdominal section might be elected, even when pelvic examination was negative, but it would be a desperate case indeed in which both ovaries would be removed, not to speak of supravaginal amputation of the uterus.

DISCUSSION

DR. HARVEY P. JACK, Hornell: I have had many cases of hemorrhage in young girls. In several repeated curettements, hygienic measures, parotid gland and thyroids have been administered without relief. These patients seem hardly to recover from the exhausting hemorrhage of one menstruation before another begins. Thyroid extract in small doses, long continued, has proved of great benefit in a few cases, but the agent that has cured every one of these severe cases so far is calcium chlorid. One girl in particular has been brought from a bleached-out nervous wreck to brilliant health by the use of this drug alone.

Sterility in Women

DR. WILLIS E. FORD, Utica: Formerly, I was accustomed to use galvanism for a considerable period in these cases to develop the uterus after slitting the posterior neck and divulsion, and I have the history of many cases in which pregnancy followed, even after a lapse of a number of years of sterility. This treatment had to be carried on, however, for several months, and the results were good for a time, but I do not think they compare with the shorter and more simple procedure advocated by Pozzi, especially with respect to the permanency of results. I have been at work long enough to follow the history of many young girls for ten years or more and up to the time of their marriage, and even afterward, and I am convinced that if early and complete drainage is secured through the uterus by this simple procedure in the few cases of cervical deformity, many serious conditions encountered later in life can be prevented and sterility can be avoided in many instances.

Dysmenorrhea

DR. ROSALIE SLAUGHTER MORTON, New York: Many gynecologists consider pain at the menstrual period normal. Martin of Germany designates as dysmenorrhea those disturbances which most women experience at the time of menstruation, such as pains in the back, discomfort, continual desire to urinate, etc., and says that these are attendant symptoms which are borne by women prudently. Anteflexion is more commonly associated with pain. I have seen these patients do well with systematic regulation of diet, the drinking of sufficient water, proper hours of sleep and graduated outdoor and indoor exercises, with a strict attention to the minor troubles, bringing these patients from semi-invalidism to efficiency. The working classes are troubled with dysmenorrhea, the percentage depending largely on the development of the individual. Kelly finds 75 per cent. of the college women suffer from dysmenorrhea. I have found poorly nourished, overworked store employees to the extent of 7 per cent. with no pain at the menstrual period. In several young patients with habitual constipation, with no definite pain at the onset of menstruation, with uterus and adnexa normal, but with prolapse of the sigmoid the dysmenorrhea has disappeared after correction of this condition. I recommend postural treatment.

DISCUSSION

DR. CAROLINE S. FINLEY, New York: Most mothers ask me whether or not they should keep their girls in bed the first day during the menstrual period, and I always advise them, if the girls are normal, not to do so. Pain during menstruation may be due to intestinal indigestion. By relieving the constipation you help the mild cases of dysmenorrhea. Again, many patients say that their daughters have leukorrhea. I find on examination that it is simply a serous discharge which comes before the menstrual flow and which is one of its safeguards.

DR. I. C. RUBIN, New York: Theoretically, there is every reason to agree with Dr. Morton on the question of pelvic congestion as causing a lot of pain which is common in dysmenorrhea. If one uses 1/75 grain of atropin, taken in tablets, three times a day, it will bring about the cessation of pain. It must be taken a few hours before the expected period. The atropin is supposed to affect also the uterine muscles. A great many unmarried girls, especially factory girls, suffer more from dysmenorrhea than girls in better social states.

DR. MARY T. ROSE, New York: There is one point which the general practitioner should emphasize, and that is, the congestion in these cases is due to retention in the rectum. We find this especially in our women with dysmenorrheic symptoms. I have found that a good deal of their trouble is primarily retention of fecal matter in the rectum.

Pregnancy in a Tuberculous Woman

DR. E. PARRY, New York: If a woman with tuberculosis is pregnant, she may bear the first pregnancy well, the second pregnancy not so well, and the third one not at all. After parturition, tuberculosis advances rapidly. A woman who has tuberculosis should never become pregnant. Ninety-seven cases of laryngeal tuberculosis are reported in the literature, and of this number ninety patients died. Actively tuberculous patients should be forbidden to marry, or if they do marry they should not become pregnant, or if they become pregnant a therapeutic abortion should be performed.

DISCUSSION

DR. RALPH W. LOBENSTINE, New York: Not infrequently pregnancy, especially if too rapidly repeated, will lay the foundation for the development of tuberculosis. That point is generally overlooked. Either pregnancy or the act of parturition aggravates the existing tuberculosis in a large percentage of cases. In von Bardeleben's cases 40 per cent. proved fatal. In my series 50 per cent. of the severe cases terminated fatally within two months after parturition. In the bad cases the patients lose ground rapidly either during labor or within three weeks afterward. During the puerperium the tuberculosis may assume a fulminating character and cause death in a surprisingly short time. The causes of rapid changes post partum are briefly these: prolonged muscular exertion of labor, loss of blood, use of anesthesia, only slightly, and the possibility of renewed toxins or tubercle bacilli being forced into the system from the placental site, all of which are serious and far-reaching in their results. Therapeutic abortion is indicated in the early months in all active cases. Tuberculous persons should, if possible, be forbidden to marry. I feel strongly that if they marry they should be forced to keep from propagating.

DR. JOHN O. POLAK, Brooklyn: I am in full accord with the position taken by Dr. Lobenstine and Dr. Parry regarding tuberculosis and pregnancy as being incompatible in certain stages of the disease, and when we have the indications, as we do in any active process, for interference, I want particularly to speak of the method of emptying the uterus. A considerable experience has shown us that unless the uterus is emptied early in these cases we have a very prolonged abortion, so to speak, by the ordinary expectant plan. Under

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local anesthesia these patients can be delivered by a vaginal hysterotomy at the third month. Before the eighth week ordinary curettage can be done without the slightest difficulty. After that time, when placental formation has taken place, I would advocate anterior vaginal hysterotomy under local anesthesia or under spinal anesthesia.

Infection with Bacillus Coli Communis Complicating Pregnancy

DR. EDWARD P. DAVIS, Philadelphia: Colon bacillus infection of the large intestine complicating pregnancy is seen in women who have neglected hygienic precaution during pregnancy, who have remained obstinately constipated or who have taken irritant drugs to empty the bowels. The pain is usually localized in the intestine and not in the peritoneum. The colon bacillus may affect the new-born infant, causing icterus and ophthalmia. It may be the cause of septic abortion or of septic infection. In cases of infection of the uterus and appendages by the colon bacillus, as determined by an examination of the contents of the uterus, the treatment does not differ from puerperal infection of other origin, except that a tendency to mixed infection and pus formation must be remembered. In these cases pelvic abscess may be expected and demand drainage.

(*To be continued*)

MISSISSIPPI STATE MEDICAL ASSOCIATION

Forty-Seventh Annual Meeting held at Columbus, April 14-16, 1914

(*Concluded from page 1685*)

Some Surgical Conditions Affecting the Biliary Tract

DR. J. W. BARKSDALE, Winona: Barring gynecologic and appendix cases, affections of the gall-bladder and bile-ducts are more frequently encountered than any other abdominal ailment. Excepting malignancy and neoplasms, these are all due to bacterial invasion. These cases are exclusively surgical.

DISCUSSION

DR. JOHN DARRINGTON, Yazoo City: If the gall-bladder is drained, the chances are that the patient will have subsequent trouble again and again until he finally comes to the surgeon for a complete removal. It is extremely important that the surgeon should have a keen appreciation of the condition of the gall-bladder while the abdomen is open.

DR. W. W. CRAWFORD, Hattiesburg: It is astonishing how many of these cases have gone on year after year without being recognized by us, and how many of them have been treated for indigestion. The symptoms are so like those of ulcer of the stomach that one is pardoned for concluding that the patient has some trouble of that kind, and the great fallacy is that so many of these patients who are dieted improve. The strange thing is that though the bladder may be filled with stones, the patient will improve when placed on a rigid diet, to such a degree that he feels practically well. But he has a series of relapses year in and year out until finally the gall-bladder is either drained or removed.

Prostatectomy

DR. JOHN DARRINGTON, Yazoo City: The conscientious surgeon approaches these cases with much anxiety, since prostatic enlargement comes with advancing years when degenerative changes have occurred in the vital organs. The choice between the perineal and suprapubic routes should be dependent on the conditions found in the individual case.

DISCUSSION

DR. J. W. BARKSDALE, Winona: I have a decided preference for the perineal operation. The patient can get up in from forty-eight to seventy-two hours, and with these old patients that is certainly an advantage. Drainage is another factor, and they can be drained better by the perineal method than by the suprapubic route.

DR. E. M. HOLDER, Memphis, Tenn.: The question of the route by which we shall approach the prostate is an important one. The suprapubic route is gaining; men who were favoring the perineal route five or six years ago are now advocating the suprapubic. The operation which appeals to me in most cases is to open the bladder and introduce a catheter through the urethra into the bladder. In very old patients and with cases with the usual bad kidneys and cardiac changes that go along with this trouble, I have found it well to do the operation in the two-step way.

Appendicitis Twenty-Four Hours after the Attack

DR. L. D. DICKERSON, McComb: If fever subsides and pain is relieved, operate after twelve days. If the reverse is the case, operate at once. While waiting, use opiates and ice-bags. The patient should have absolutely nothing by the mouth.

Head Injuries

DR. G. W. CALE, St. Louis: Fracture of the skull is of serious moment in proportion to the complications that may accompany it. Each individual case of head injury should be studied from the anatomic and physiologic points of view, with the assistance of the Roentgen ray. After a diagnosis is reached, the plan of treatment is usually easily determined.

DISCUSSION

DR. H. T. INGE, Mobile, Ala.: Treatment of head injuries is not different in many particulars from the treatment of all other forms of injury. The same amount of care in handling a case of head injury will make that injury amenable to treatment just the same as an injury in any other part of the body. In December, in a terrible railway wreck, 169 men were injured. The predominating injuries were head and face injuries. There were several cases in which the brain substance escaped through the wound. There were extensive lacerations of the scalp; and the emergency treatment adopted was not by a surgeon, but by a member of the Hospital Corps, applying the emergency dressing which every United States soldier carries with him. Every soldier hurt in this wreck, as soon as placed in a hospital, was given an immunizing dose of antitetanic serum. His wounds were then dressed by the surgeons and not a single case of infection occurred.

Treatment of Fracture

DR. S. W. JOHNSTON, Vicksburg: No fracture should be put in a permanent splint until apposition has been demonstrated by the Roentgen ray. When accurate alignment cannot be secured by the usual methods, an incision should be made and a plating done. All compound fractures should be treated by the "open" method.

The Need of General Information on Infant-Feeding

DR. R. N. WHITFIELD, Florence: The average physician says that he is too busy to spare the time necessary to perfect himself in the details of infant-feeding. One reason is that so much of his time is taken up in treating the conditions caused by improper feeding of infants. Another is that average milk-production is faulty. Milk laboratories are necessary—to get them we need cooperation among physicians and money. A clean dairy, a trained nurse and a couple of delivery-boys would supply our average town, and the nurse would have time to spare in which she might visit the homes of the poor where infants are being artificially fed.

Convulsions in Infancy and Childhood

DR. A. W. MCNEAL, Ruleville: The most common cause is toxemia from intestinal disturbances. Rachitis has not been a factor in my practice.

Chorea

DR. S. A. MAJURE, Dixon: Arsenic has given me the best results. General tonics are indicated and rest is essential. I have never seen a case in a negro.

Infantile Paralysis

DR. J. C. MCNAIR, Fayette: We had nineteen cases of infantile paralysis in Jefferson County in 1911. No more than two cases were within 5 miles of each other. My first

case showed ligh temperature and rigidity of muscles, especially of the back and lower extremities. In another, the only fatal case, there was involvement of the respiratory muscles. In one there was loss of function of both lower limbs, the mother not thinking it necessary to call in a physician until she found that her child could not walk. The symptoms preceding the paralysis are not the same in all cases; they may be so insignificant as to be disregarded.

Quinin Amaurosis

DR. W. M. BIGGS, Rome: The patients in the cases which I report were aged, respectively, 2, 4, 6 and 4 years. The first three were brothers. The first received 2 grains every three hours for three days and then 4 grains every hour for a day; the second 6 grains every four hours for a day; the third 8 grains every four hours for a day and then 10 grains of quinin with urea hypodermatically. The fourth was given 40 grains of quinin and urea hypodermatically in two doses, six hours apart.

DISCUSSION

DR. E. C. PARKER, Gulfport: I should like to know if Dr. Biggs had his quinin thoroughly examined to see whether or not there were any impurities in it.

DR. A. W. MCNEAL, Ruleville: There was recently a case of quinin amaurosis in my settlement. It resulted from the administration of something like 8 grains at four-hour intervals. That treatment was kept up for a day and eight hours, and the woman became totally blind. The quinin was discontinued and Fowler's solution begun in that case. The patient remained partially blind for something like a week after withdrawal of the quinin, but finally regained complete sight.

Rabies

DR. F. M. RANCK, A. and M. College: Rabies may last from three to thirteen days and is most always fatal. It is not advisable to kill suspicious animals if they may be kept under observation. In the treatment of the wound, antiseptics and caustics are recommended. Bier's ligature is sometimes helpful.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Diseases of Children, Chicago

May, VII, No. 5, pp. 337-408

1 *Intestine in Health and Catarrh, as Pathway of Infection to Tubercle Bacillus. L. Findlay, Glasgow.
2 *Congenital Elevation of Scapula (Sprengel's Deformity) of Familial Type. Report of Nineteen Cases. H. Neuof, New York.
3 Respiratory Infections in Infants' Wards. W. F. Chappell and A. Brown, New York.
4 Recent Contributions to Our Knowledge of Nephritis. R. M. Smith, Boston.

1. **Tuberculous Infection.**—Healthy animals were killed by Findlay at short intervals varying between four and ten days, after the introduction of an exceedingly virulent culture (three weeks old) of tubercle bacillus and, with one exception (when the dose was 10 mg.), each capsule contained 5 mg. Emulsions of one lung and all the mesenteric glands from each case were made and introduced intraperitoneally through a small abdominal wound in rabbits, which were used for the secondary inoculations. Three of the animals inoculated with an emulsion of lung died too soon to give the disease time to develop, but in all the others ample time was allowed. In two of the animals inoculated with mesenteric glands, tuberculosis developed, thus showing that living tubercle bacilli had migrated to the mesenteric glands, but in not one instance were living bacilli demonstrated in the lungs by animal experiment. Both of the above mentioned infected animals had lived for a period of fifty-three days, and yet the disease was slight. It consisted of small tubercles situated chiefly in the omentum, but also in the mesentery and diaphragm, and apparently spreading by the lymphatics, the disease had infected the pleural cavities, several small subpleural nodules being visible. Films of the nodules revealed very scanty tubercle bacilli.

In one rabbit inoculated intraperitoneally with a very minute dose of the same culture as was used in the primary experiments, death occurred at the end of three days, when the peritoneum was found studded with minute tubercles containing abundant tubercle bacilli. In the inhalation experiments with the same type of organism, but another culture, the lungs were absolutely solid within thirty days. This very different picture, Findlay says, would seem to show that tubercle bacilli in their passage through the intestinal mucosa diminish considerably in virulence, but, the fact remains, that living tubercle bacilli can pass through the apparently healthy mucosa and reach the mesenteric glands within a period of six days, but such is not of very frequent occurrence.

In the second series of experiments the bacilli were introduced in greater quantity (10 mg.) after the animal had recovered from an intestinal catarrh induced by an infusion of senna leaves. In only one case out of five were living tubercle bacilli demonstrated in the mesenteric glands, but in not one instance were they shown to have reached the lungs within a matter of six days.

In a third series of experiments the animals were kept alive a sufficient time for the disease to develop. The dose of the culture varied between 10 and 20 mg. and was administered in a gelatin capsule with the stomach-tube. The majority of the animals (87 per cent.) which lived forty-six days or longer developed tuberculosis. In all the positive cases the gastro-intestinal tract presented lesions visible to the naked eye, and, with one exception, where undoubtedly insufflation had occurred, the intestinal foci were the most extensive. The appendix and adenoid patch at the ileocecal valve invariably, and in the earliest cases these parts alone, were the seat of the mischief. In one experiment, however, of only forty-six days' duration the cecum was in addition studded throughout with small nodules, and the mesenteric glands were extensively involved, presenting numerous caseous foci. In the majority of the positive experiments the mesenteric glands were also affected, and in those rabbits which had survived fifty days or longer infection of the Peyer's patches was found, and in those killed seventy days or more after inoculation an occasional nodule was encountered in the lungs. In no case was the spleen observed to be the seat of tuberculosis. These experiments prove that rabbits can be infected by feeding with tuberculous material. In every instance the most extensive mischief was situated locally in the intestine, and thus they lend absolutely no support to the idea that primary tuberculosis of any organ other than the bowel, can arise from bacilli which have gained admission by the intestinal route.

Of seventeen rabbits with diarrhea infected experimentally which lived longer than nineteen days, fourteen, that is, 82 per cent., developed tuberculosis, and all those that survived at least thirty days, that is, 100 per cent., showed definite infection of the gastro-intestinal tract. As in the healthy animals the earliest lesions were situated in the appendix and lymphoid area at the ileocecal valve in the form of small whitish nodules about the size of a pinhead lying immediately under the peritoneal coat. When the animals had lived for at least forty-one days the mesenteric glands invariably presented caseous foci, and the cecum and lungs were as a rule the seat of tuberculosis. It is thus seen that in the animals which had previously suffered from enteritis the lesions were on the whole similarly distributed to those occurring in rabbits not so affected.

Findlay also found that healthy rabbits may be infected by the ingestion of large amounts of the human tubercle bacillus. Rabbits just recovered from intestinal catarrh constantly, and within a much shorter period, develop tuberculosis after the ingestion of human tubercle bacilli. With the human type of organism a local intestinal lesion is not always present, and when present is slight in comparison with the diseased foci in the mesenteric glands or lungs.

Apparently primary pulmonary tuberculosis can be caused in rabbits by the ingestion of large amounts of human tubercle bacilli.

Findlay believes that the best means of combating the spread of bovine infection in childhood is in the avoidance of everything likely to cause intestinal catarrh, and in the sterilization of milk intended for the use of infants and children.

2. **Sprengel's Deformity.**—As a result of the study of 19 cases Neuhof concludes that congenital elevation of the scapula occurs in a familial form; unilateral and bilateral congenital elevation of the scapula are varieties of one affection. The deformity of the scapula and the defects in the trapezius (as well as other coexisting anomalies) are parts of a more general fault in development, i. e., Sprengel's deformity is a manifestation of atavism when it prevails in a familial form. It is probably a manifestation of atavism when it occurs in isolated instances. Neuhof is convinced that if sought for, more instances of congenital elevation of the scapula of familial type will in all probability be found.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

May, LXIX, No. 5, pp. 753-908

5 *Experiences with Spinal Anesthesia in Pelvic Surgery. B. M. Anspach, Philadelphia.
6 Clinical Significance of Sarcomatous Change in Uterine Fibromyoma. S. H. Geist, New York.
7 *Treatment of Necrosis of Uterine Fibroma. G. E. Shoemaker, Philadelphia.
8 Prevalence of Puerperal Sepsis in Gynecologic Wards of Philadelphia Hospitals. J. A. McGlinn, Philadelphia.
9 Present Status of Puerperal Infection in Private Practice—Practical Methods of Prevention and Treatment. C. Foulkrod, Philadelphia.
10 Primary Malignant Tumors of Female Urethra. B. P. Watson, Toronto.
11 Perithelioma of Uterus. B. P. Watson, Toronto.
12 Experiences with Method of Immediate Repair of Perineal Lacerations. G. Baughman, Richmond, Va.
13 Spontaneous Evolution in Shoulder Presentation, with Report of Three Cases. G. L. Brodhead, New York.
14 Post-Typhoid Suppuration of an Ovarian Cyst Infected by Bacillus Typhosus of Eberth. F. H. Maier, Philadelphia.
15 Pregnancy Complicated by Typhoid with Hemorrhage and Relapse; Delivery at Term. S. Berkowitz, New York.
16 Simple Method of Testing for Formalin after Administration of Hexamethylenamin. G. L. Kaufmann, Chicago.

5. **Spinal Anesthesia in Pelvic Surgery.**—Spinal anesthesia even in expert hands, according to Anspach will have a higher immediate mortality as a routine anesthetic than ether, chloroform or nitrous oxid. It has no postoperative mortality or morbidity, and in this respect is superior to ether, chloroform and infiltration anesthesia, but it is not superior in this respect to nitrous oxid and oxygen. It is more troublesome to the surgeon than ether, chloroform or nitrous oxid and oxygen anesthesia. Anspach advises that spinal anesthesia should not be used unless the surgeon has familiarized himself thoroughly with all the details of the technic; he also should be aware, fully, of the complications which may arise, and be ready to meet them at a moment's notice. Well given it is the best form of anesthesia in selected cases, but it should be reserved for those operations in which the dangers of general anesthesia are increased, or in which nitrous oxid and oxygen and local anesthesia are unsuitable or unsatisfactory.

7. **Necrosis of Uterine Fibroma.**—The best treatment of necrotic fibroma, Shoemaker says, is preventive. That is, the removal of all large or growing tumors, or those which cause symptoms, before they become necrotic. The Roentgen ray is a temporizing expedient which will result in many deaths, either from overlooked malignancy, or from late complications. Whenever possible, Shoemaker states, the tumors should be removed by the vagina, leaving the uterus if possible, and leaving the ovaries if hysterectomy is done. The actual cautery is a valuable help in the vaginal cases for after-treatment of the tumor site. The mortality will depend on the degree of infection present when the operation is performed, and should be lowest in those treated by the vagina.

American Journal of Public Health, Boston

April, IV, No. 4, pp. 289-390

17 Statistical Study of Measles. F. S. Crum, Newark, N. J.
18 Result of Experimental Employment of Hypochlorite Treatment to Portion of Chicago City Water-Supply. G. B. Young, Chicago.
19 Marriage Registration: One Way Out. W. J. V. Deacon, Topeka, Kan.

Archives of Diagnosis, New York

January, VII, No. 1, pp. 1-100

20 Importance of Subjective Symptoms for Early Recognition of Cancer. I. Levin, New York.
21 Bismuth Meal Roentgenogram in Diagnosis. W. A. Bastedo, New York.
22 Acute Gastrectasis. R. W. Wilcox, New York.
23 Periarticular Suppuration of Pure Gonococci Origin. D. Stetten, New York.
24 Dysmenorrhea. S. W. Bandler, New York.
25 Prostatic Incident in Diabetes. H. Stern, New York.
26 Epistaxis as an Expression of Systemic Disease. H. Hays, New York.
27 Tuberculosis of Cecum. H. E. Stein, New York.
28 Diagnostic Pitfalls in Pediatrics. Miliary Tuberculosis. Acute Intussusception. Pylorus Stenosis. H. B. Sheffield, New York.
29 Hyperthyroidism—Its Etiology and Symptomatology. W. H. Good, Philadelphia.
30 *Murphy Button Almost Entirely Digested Within Four Years. O. Kiliani, New York.

30. **Murphy Button Almost Entirely Digested.**—In 1904 a posterior gastro-enterostomy by means of a Murphy button was done by Kiliani. After that, the patient was perfectly well for five months, then he began to suffer from the same symptoms as before operation, namely, vomiting and epigastric pain, but never as severe. Before operation he often vomited blood, but never after that. During all these four years whenever he got an attack of pain and vomiting, he would stop work for a week or so, until it subsided, and then resume his work.

His history before the last operation was as follows: Lately attacks have become more severe, and from four to five weeks he has had continual pain in the epigastrium, with exacerbation of very agonizing pain, coming on especially at night, not after meals. He thinks pain is relieved by eating, but it returns with increased force, one to one and a half hours after meals. Pain radiates to back and is very intense there, chiefly on left side, also shoots to region of heart, never to shoulder or downward. Soon after the pain comes he has to vomit, usually one to one and a half hours after meals. Often vomits large quantities; sometimes he vomits food which he took the day before. He has not vomited blood, appetite good, but afraid to eat on account of pain and vomiting. Has lost about 10 pounds. Bowels constipated, has to take cathartics. Stool usually hard and black. Urination normal. The patient says he did not pass the Murphy button which was used for his gastro-enterostomy, four years ago. Just before operation a roentgenogram was made of the umbilical region. No button was seen. Another was made of the region above this, which showed a shadow suggesting Murphy button—not as clear, though, as shadow of a metal substance should be.

In 1909 Kiliani operated again; gastrostomy then done. Without much difficulty a wire spiral spring from Murphy button was withdrawn from the pylorus. The latter was patent, and admitted tip of index finger. The remainder of stomach was then palpated, but nothing else abnormal found. The old gastro-enterostomy was carefully felt for with one finger inside of the stomach and the other one outside, but no opening could be found. Apparently it had closed entirely.

Archives of Ophthalmology, New Rochelle, N. Y.

May, XLIII, No. 3, pp. 231-356

31 Fifth Case of Acute Disseminated Myelitis with Retrobulbar Inflammation of the Optic Nerves. W. A. Holden, New York.
32 Case of Permanent Impairment of Vision Following Gastro-Intestinal Hemorrhage. G. H. Grout, New York.
33 Successful Treatment of Corneal Tumor with Radium, with Remarks on Radium in Ophthalmology. A. F. Mattice, New York.
34 Anatomic Study of Case of Temporal Conus (Coloboma) in an Hyperopic Eye. E. V. L. Brown, Chicago.
35 Department of Conservation of Vision. H. C. Greene and G. S. Derby, Boston.

Archives of Pediatrics, New York

April, XXXI, No. 4, pp. 241-320

36 *Malaria in Infants. W. Weston, Columbia, S. C.
37 Congenital Malaria. M. H. Bass, New York.
38 Significance of Mineral Salts in Digestive Disturbances of Infants. C. I. Wood, Ann Arbor, Mich.
39 Etiology and Symptomatology of Nervousness in Infancy. D. J. Levy, Detroit.
40 Unilateral Congenital Hypertrophy of Leg and Big Toe. J. Speese, Philadelphia.
41 Guaiacol Poisoning by Absorption. Report of Case. L. A. Secton, New York.

36. **Malaria in Infants.**—If seen during the early part of the paroxysm Weston gives a hot mustard bath, applies an ice cap to the head, and if the infant is having convulsions gives bromid of soda and antipyrin also. If the infant is in this stage, frequent tepid spongings give great relief. The bowels should be promptly and freely opened by the use of frequent small doses of calomel. Other medicinal treatment consists in the administration of quinin, preferably bisulphate in aqueous solution. The stomach of infants suffering from malaria is almost invariably very irritable, and it is therefore important that quinin should be given only at those times when it will be most effective in destroying the parasites. Weston advises that in benign attacks no quinin be administered for at least three hours after the temperature becomes normal. Then administer 2 grains bisulphate in aqueous solution every two hours day and night for twenty-four hours, then 2 grains of the solution every four hours for twenty-four hours, then 3 grains morning and evening for three weeks. It absorbs more readily when the stomach is empty. If difficulty is found in retaining the bisulphate, euquinin or the tannate may be tried. In pernicious malaria quinin hypodermically is the only method to be relied on.

The best salt of quinin for injection in Weston's opinion is the bimuriate. The tablets of bimuriate of quinin and urea are convenient and reliable. The 3-grain tablets contain about 2½ grains of the quinin salt. The tablet should be dissolved in distilled water or merely sterilized water. The needle and syringe must be sterile and the skin sterilized. The solution is then injected deep into the muscles. This procedure may be repeated every six hours. Finally the rectal administration of quinin may be resorted to. Here the bimuriate in doses three times as large as would be given by the mouth or intramuscularly should be given in 2 ounces of warm water. This injection should be given high up in the rectum. It is well to add 5 drops of tincture of opium to the solution to prevent tenesmus and aid retention.

Boston Medical and Surgical Journal

May 14, CLXX, No. 20, pp. 745-780

42 Territorial Autonomy in Cerebral Circulation and Its Rôle in Genesis of Symptoms in Psychoneuroses. J. W. Courtney, Boston.
43 *Ten Tests for Determining When a Patient Is Cured of Gonorrhea. C. M. Whitney, Boston.
44 Some Hygienic Tests Applied to Orthopedic Conditions. H. W. Marshall and H. L. Langnecker, Boston.

43. **Determining when Patient is Cured of Gonorrhea.**—The ten points mentioned by Whitney are an examination of the discharge, the urine, instrumental examination of the urethra, urethroscopic examination, examination of the prostate and vesicles, test by alcohol, coitus, discharge induced by irritating antiseptics, bacteriologic examination of the expressed vesicular and prostatic secretion by culture and slide, and the complement fixation test.

California State Journal of Medicine, San Francisco

May, XII, No. 5, pp. 167-218

45 George Chismore. D. W. Montgomery, San Francisco.
46 Review of Early Vaccination Controversy. P. K. Brown, San Francisco.
47 Reminiscences: Transition of Surgery to Antiseptic Surgery. M. Regensburger, San Francisco.
48 Presentation of Patient Twenty Months after Operation for Uterine Cancer Complicated with Umbilical Hernia. C. J. Teass, San Francisco.
49 *Green Operating Room at St. Luke's Hospital. H. M. Sherman, San Francisco.
50 Blindness Following Injuries to Back of Head. L. Newmark, San Francisco.
51 Recollections of Listerian Epoch. C. G. Levison, San Francisco.
52 Removal of Cervical Lymph-Nodes in Malignant Disease of Head and Face. H. A. L. Ryfkogel, San Francisco.
53 Basic Principles in Eczema. E. D. Chipman, San Francisco.
54 Case of Extraperitoneal, Intraligamentous Dermoid Cyst and Pregnancy. H. J. Kreutzmann, San Francisco.
55 Artificial Cultivation of Gonococcus. E. A. Victors, San Francisco.
56 Early Diagnosis of Renal Tuberculosis by General Practitioner. M. Krotoszyner, San Francisco.
57 Ununited Fractures. J. T. Watkins, San Francisco.
58 Myxolipoma of the Knee-Joint. G. M. Barrett, San Francisco.
59 Artificial Pneumothorax in Advanced Lung Tuberculosis. L. S. Mace, San Francisco.
60 *Iodin Specific Germicide in Respiratory Affections. S. Blum, San Francisco.
61 Hygienic Shoeing—Anatomic Facts vs. Convention and Style. C. C. Crane, San Francisco.

49. **Green Operating Room.**—The discomfort Sherman has had in the present-day white operating rooms led him to suggest dark floors and wainscots in these rooms, so that the operator who looks up from a wound shall not encounter a glare of light and find his eyes useless for a moment, as he looks back into the less illuminated wound. The color scheme, it seemed to him should start from the red of the blood and of the tissues, therefore he advised that green, the complementary color to red, should be chosen for the color of the floor and wainscot. The particular shade of green to be selected was that which was complementary to hemoglobin, and it was found to be the green of the spinach leaf. A room painted in this way, the floor, and the walls for six feet from the floor, a bright spinach green, and all about a glazed white, was matched for use against a room painted a glazed white—floor, walls and ceiling—in the operating pavilion at St. Luke's Hospital. Sherman says that no one who could get into the green room to do an operation ever went into the white room. Above the level of the six-foot green wainscot is white encaustic tiling to the ceiling, and the ceiling itself is a bright buff. Sheets, towelings and gowns and the coverings for the instrument tables are of black.

60. **Iodin Specific Germicide in Respiratory Affections.**—In the treatment of respiratory affections Blum has employed with equally beneficial results hydriodic acid and the iodids of potassium, ammonium, sodium and strontium. The syrup of hydriodic acid, he says, is especially applicable for adults with sensitive digestion and for children. Apart from this consideration the desideratum is to give sufficient iodid to definitely affect the respiratory secretion without causing unpleasant and unfavorable symptoms—coryza, lacrimation and digestive disturbance.

Cleveland Medical Journal

May, XIII, No. 5, pp. 307-374

62 Early Types of Man. T. W. Todd, Cleveland.
63 *Persistent Hereditary Edema of Legs (Milroy's Disease) with Acute Exacerbations. Report of Two Cases. J. Phillips, Cleveland.
64 "Climatic Cure" of Pulmonary Tuberculosis in Its Relation to Other Methods of Treatment. G. W. Moorehouse, Cleveland.
65 New Pharmacopeia. W. C. Alpers, Cleveland.
66 Sediment Test for Milk. H. O. Way, Cleveland.
67 History of Physiology of Digestion. R. G. Pearce, Cleveland.

63. **Persistent Hereditary Edema of Legs.**—Phillip's first patient, male, aged 40, complained of severe cough, which was due to a subacute bronchitis, and this cleared up quickly under treatment. In the course of the physical examination it was discovered that there was a well-marked painless edema of the left leg, extending from the knee downward. The edema was not so well marked over the foot and ankle, because it was reduced by wearing his shoe. On further questioning, the patient stated that this condition had been present from the first year of his life. It had never caused him any great inconvenience, except that at times his affected leg would become red, swollen, hot and very tender. At these times he would feel very ill and feverish, and there would be some disturbance of his stomach. He could assign no cause for these acute attacks other than at times it would follow slight injuries. This condition would subside in the course of three or four days. These attacks began at the age of 10 years, and occurred once or twice a year until the past eight years, when they have been growing much less

V. 191

frequent. His right leg was unaffected and his left leg was normal above the knee. With the exception of this condition there was nothing abnormal found on physical examination.

The second patient, a boy, aged 6 years, son of the first patient, showed a condition similar to that seen in his father, except that the right leg was affected. The general character of the swelling was the same except that there was greater edema over the dorsum of the foot because he had been going about in his bare feet all summer. His mother had first noticed the swelling of his leg when he was 4 months old, and it had gradually increased and remained since that time. The boy had suffered no inconvenience from his enlarged leg until the time he was first seen. In October, 1913, after a slight scratch on his right foot, he developed in a few hours a red brawny swelling extending to the knee. This was very painful and tender to the touch. The upper border of the swelling was raised and sharply defined. His temperature rose to 104 F. and the patient had severe nausea and vomiting. The physician who saw him at that time thought that the condition was one of septic infection and advised operative procedures, but the mother refused consent, because she knew that his father suffered similar attacks and quickly recovered. That her judgment was correct was shown by the fact that the pain, redness and swelling disappeared, and the temperature returned to normal three days later. Since then he has had no more acute attacks.

Illinois Medical Journal, Chicago

May, XXV, No. 5, pp. 285-356

68 Some Fallacies in Open-Air Treatment of Pulmonary Tuberculosis. C. W. Leigh, Chicago.
69 Acute and Chronic Miliary Tuberculosis. E. Wrightsman, Chicago.
70 *Hydrocephalus Internus, Lumbar Drainage by Utilization of Meningocele Sac as Drainage Tube. H. P. Cole, Mobile, Ala.
71 Importance of Urinalysis During Pregnancy and Significance of Positive Findings. J. H. Beard, Urbana.
72 Version and Breech Presentations. F. F. Kitzing, Chicago.
73 Disorders of Cardiac Mechanism; Their Modern Interpretation. J. Sherlaw, Chicago.
74 Spondylotherapy in Exophthalmic Goiter. J. A. Hirsch, Edwardsville.
75 Drainage of Gall-Bladder in Typhoid Carriers. E. L. Loblell, Chicago.
76 Insanity with Special Reference to Diagnosis and Prognosis of Its Common Forms. T. B. Throckmorton, Des Moines, Iowa.
77 Spirocheta Pallida Demonstrated in Smears from a Paretic Brain by Giemsa's Stain. G. W. Brock, Peoria.
78 Depressed States Apparently Not in Manic-Depressive Group. S. N. Clark, Kankakee.

70. Abstracted in THE JOURNAL, Feb. 7, p. 485.

Journal of Abnormal Psychology, Boston

April-May, IX, No. 1, pp. 1-71

79 Psychoanalysis. P. Janet, Paris.
80 Dream Interpretation and Theory of Psychoanalysis. J. J. Putnam, Boston.
81 Recent Literature on Juvenile Suicides. L. M. Terman, Stanford University, Cal.
82 International Congress of Medical Psychology and Psychotherapy. R. Assagioli, Florence, Italy.

Kentucky Medical Journal, Bowling Green

April 15 and May 1, XII, Nos. 8-9, pp. 237-292

83 Mercurial Stomatitis. E. D. Burnett, Anchorage.
84 Psychotherapy. A. Sargent, Hopkinsville.
85 Heat Prostration. N. C. Magraw, Hopkinsville.
86 Heredity and Child Welfare. J. D. Trawick, Louisville.
87 Question of Sex Educations. H. J. Farbach, Louisville.
88 Scarlet-Fever Treatment. W. L. Mosby, Bardwell.
89 Fractures of Long Bones. P. N. Blackerby, Falmouth.
90 Ideal and Real in Practice of Medicine. G. G. Thornton, Lebanon.
91 Open Treatment of Fractures. G. A. Hendon, Louisville.
92 Puerperal Fever. R. T. Hocker, Arlington.
93 Use of Roentgen Rays in Treatment of Fractures. B. W. Bayless, Louisville.
94 What Shall the Country Doctor Do with His Patients? E. J. Brown, Stanford.
95 Hysteria. J. W. Hill, Frankfort.
96 Medical Ethics. H. C. Clark, Falmouth.
97 Atypical Pneumonia. O. W. Brown, Lenoxburg.
98 Epileptic Convulsions. T. J. Townsend, Owensboro.
99 Prevention of Tuberculosis. S. M. Hopkins, Demossville.
100 Menstruation and Menopause: Their Influence on Vicious Circle. W. J. Thomasson, Newport.
101 Examinations for Life Insurance. F. M. Stites, Hopkinsville.
102 Treatment of Tuberculosis. L. T. Eckler, Falmouth.
103 Preventive Medicine. J. E. Wilson, Butler.
104 Obstruction of Bowels, Intussusception. C. K. Kendall, Morgan.
105 Symptoms and Treatment of Acute Articular or Inflammatory Rheumatism. F. London, Woodburn.
106 Preventive Medicine. O. W. Brown, Lenoxburg.

Lancet-Clinic, Cincinnati

May 9, CXI, No. 19, pp. 543-566

107 On Relationship of Ductless Glands to Growth. A. D. Dunn, Omaha.
108 Latent Mastoiditis. W. Mithoefer, Cincinnati.
109 Maternal Obstetric Records in Cincinnati Hospital for Period of Twenty Years. M. A. Tate, Cincinnati.

Medical Record, New York

May 16, LXXXV, No. 20, pp. 875-920

110 *Value of Polycythemia for Diagnosis of Duodenal Ulcer. G. A. Friedman, New York.
111 Mechanic Support for Feet in Locomotor Ataxia. W. J. M. A. Maloney and V. E. Sorapure, New York.
112 Prophylaxis of Laryngeal Tuberculosis. A. R. Solenberger, Colorado Springs, Colo.
113 Chronic Prostatitis. A. Kemble, Washington, D. C.
114 Bacteria and Bacterial Proliferations in Dairy Products and Their Solution. J. M. W. Kitchen, East Orange, N. J.
115 Roentgen-Ray Treatment of Myoma. E. Birdsall, Glens Falls.
116 Voice and Manners in Medical Practice. T. D. Crothers, Hartford, Conn.

110. **Polycythemia for Diagnosis of Duodenal Ulcer.**—While in gastric ulcer and in chronic appendicitis moderate anemia is the rule and polycythemia the exception, Friedman claims that in duodenal ulcer just the reverse occurs; polycythemia is frequent and anemia rare.

Missouri State Medical Association Journal, St. Louis

May, X, No. 11, pp. 439-446

117 Some Surgical Complications of Typhoid. M. B. Clopton, St. Louis.
118 Operative Treatment of Hemorrhoids and Fistula in Ano. W. H. Stauffer, St. Louis.
119 Prevention of Deformities in Schoolchildren. B. Belove, Kansas City.
120 Early Recognition of Feeble-Minded in Public School. F. M. Barnes, Jr., St. Louis.
121 Study of Five Hundred and Seventy-Five Schoolchildren. C. W. Tooker, St. Louis.
122 Luke, Greek Physician. VI. Brain in Relation to Medical Science and Pious Faith. G. Homan, St. Louis.
123 Honey-Bee and Its Products. F. C. Ameiss, St. Louis.
124 Pyelitis Complicating Pregnancy. R. E. Wobus, St. Louis.
125 *Point in Technic of Removal of Goiter. J. H. Outland, Kansas City.
126 Ocular Manifestations of Sinus Disease. C. W. Gosney, Kansas City.

125. **Removal of Goiter**—A double four-pronged forceps is used by Outland to make traction on the lobe selected for enucleation. The superior pole is thus brought into easy operative reach often without the division of the sternomastoid muscle. An aneurysm needle is then forced under the superior thyroid vessels through the substance of the gland and ligated. The inferior vessels are treated in the same fashion, after dissecting the gland from above and freeing it from the capsule posteriorly.

New York Medical Journal

May 9, XCIX, No. 19, pp. 909-960

127 Relation of Aphasia to Mental Disease from Medicolegal Point of View. C. W. Burr, Philadelphia.
128 Sensorimotor Aphasia. J. H. Lloyd, Philadelphia.
129 Observations on Child of To-Day. T. S. Southworth, New York.
130 Psychoanalysis. M. Solomon, Chicago.
131 Psychologic Effect of Fairy Story. A. L. Benedict, Buffalo.
132 Rectal Cases Under Local Anesthesia. J. F. Saphir, New York.
133 Why Electrotherapy Cures. H. H. Seelye, Daytona, Fla.
134 Brachial Neuritis. J. F. Harris, New York.
135 Acute Dilatation of Stomach Complicating Pregnancy. N. P. Thompson, St. Louis.
136 In Memoriam: Dr. Edward Charles Spitzka. N. E. Brill, New York.

May 16, No. 20, pp. 961-1012

137 *Salvarsan a Valuable Treatment of Brain Tumor Symptoms Dependent on Syphilis. J. Collins, New York.
138 Constitutional Dysmenorrhea. S. W. Bandler, New York.
139 Apraxia in Relation to Aphasia. J. H. W. Rhein, Philadelphia.
140 Anatharia and Its Relation to Aphasia. T. H. Weisenburg, Philadelphia.
141 Need of Hospitals for Whooping-Cough in New York City. G. R. Pisek, New York.

142 Kidney Disease, with Special Reference to Test for Functional Capacity. W. E. Robertson, Philadelphia.
143 *Tropical Malaria and Its Causes. C. S. Braddock, Jr., New York.
144 Oral Sepsis of Dental Origin. W. H. Haskin, New York.
145 Shock. E. Boise, Grand Rapids, Mich.
146 Gastro-Intestinal Stasis. H. S. Graham, New York.
147 Alcohol Acidemia. S. Stern, Atlantic City, N. J.
148 Uterus Duplex Cum Vagina Bipartita. G. R. Smith, Mount Vernon, Wash.

137. **Salvarsan Treatment of Brain Tumor Symptoms Dependent on Syphilis.**—Three cases are cited by Collins to call attention to the importance of making a Wassermann examination in all cases in which there is suspicion of brain tumor. The prompt way they yielded to treatment is emphasized to testify to the value of salvarsan in the treatment of syphilitic nervous disease.

143. **Tropical Malaria**—To fight malarial fever, Braddock says, sanitation is as necessary as mosquito prevention, and this means good water and protection from the elements Everywhere in the tropics as far as possible always use mosquito curtains, as they are absolutely necessary for comfort and health. He says that if you obey the laws of the jungle you can travel with comparative security in any jungle in the world. Sleep as high from the ground as possible, drink distilled or boiled water, use mosquito curtains, give prophylactic doses of quinin, and always cut away the jungle as far as possible in the camping place. Braddock lays much stress on cutting the jungle back, because just in proportion as the jungle is cut away and the sun let in around mines, canals and railroads, cities and towns, so will the malarial rate decrease. Then if the mosquitoes are also destroyed and the people sleep as high from the ground as possible and have a good supply of rain or distilled water for drinking purposes, or artesian well water, with good sanitation, wonderful results can be accomplished.

Braddock believes that the mosquito is not the only carrier of malaria, but that, differing from yellow fever, malaria is carried by water and soil, and that the mosquito when not infected by a person suffering from malaria gets it from the water in which it was born. His observations have been made personally in Cuba and Hayti, and in Siam, French Indo-China, Siamese Malaya, Federated Malay States, and along the eastern Burmese frontier, and in Ceylon and Egypt.

Philippine Journal of Science, Manila

December, VIII, No. 6, pp. 409-557

149 Bacteriologic Observations Made During Outbreak of Plague in Manila in 1912. O. Schöbl.
150 *Some Experiments on Inoculation of Monkeys with Small-Pox. P. M. Ashburn, E. B. Vedder and E. R. Gentry.
151 Bacteriologic Examination of Certain Artesian Wells in Rizal, Cavite and Bulacan Provinces, P. I. M. A. Barber.
152 Infant Mortality in Philippine Islands. W. E. Musgrave.
153 Protective Power of Normal Human Milk against Polyneuritis Gallinarum (Beriberi). R. B. Gibson.
154 Proteoses and Fever. R. B. Gibson.
155 Albinism in Philippine Islands. V. G. Heiser and R. Villafranca.
156 Life History of Esophagostomum Apiostomum: I. Development Outside of Host. E. L. Walker.
157 Duration of Infectiveness of Virulent Rinderpest Blood in Water Leech, Hirudo Boyntoni Wharton. W. H. Boynton.
158 Physical and Chemical Properties of Oleoresin of Aspidium, with Respect to Detection of Adulterations. A. G. DuMez.
159 *Variability of Certain Strains of Dysentery Bacilli as Studied by Single-Cell Method. M. A. Barber.

150. **Inoculation of Monkeys.**—Ashburn and his co-workers found that fresh vesicle contents from a case of human variola is capable, when inoculated into abrasions or scarifications on non-vaccinated monkeys, of producing variola inoculata in those monkeys, the disease being marked by fever and by primary and secondary lesions. Such vesicle contents kept at ice-chest temperature for twenty-three days loses most of its virulence, but may still, in a proportion of instances, produce a mild and atypical variola inoculata, which in turn and in further modified form may be passed to other monkeys. Active and fresh vesicle contents inoculated on vaccinated monkeys may produce a fever closely resembling that of variola inoculata in the monkey and a condition permitting of interpretation as variola sine exanthemate in the monkey. Small-pox scabs or disks from man or monkey possess but a low degree of virulence, or very quickly lose their virulence. When inoculation of such scabs does result in the production of infection this may be manifested only locally at the site of inoculation. The authors restate their hypothesis that small-pox is due to a dual and divisible virus, one part of which is the cause of vaccinia and the pock stage of small-pox, the other part being necessary for the production of the highly contagious febrile, general disease with an initial stage and preliminary rashes.

159. **Dysentery Bacilli.**—From a culture of bacillus dysenteria, Flexner type, derived from a single-cell, 3 series of single-cell isolations were made by Barber at intervals of about five months. The first series gave 5 maltose-fermenting variants out of 21 isolations; the second, 5 out of 60; the third, 1 out of 123. The other single-cell cultures as well as the parent culture render maltose alkaline. The non-fermenting type produces secondary colonies consisting of normal and involution cells, either of which may develop acid or alkaline producing cultures. An ordinary transfer from a secondary colony, including many cells of both sorts, gives an acid-forming culture. Selection from the acid-producing type failed to produce any but similar types, and selection from the alkaline-producing type gave only alkaline, provided secondary colonies were not chosen. Mixed cultures, consisting of an equal number of cells of each type, showed that the two types may exist side by side through from 10 to 15 daily transfers, but with a tendency for the acid to outstrip the alkaline. Transfer to maltose broth gave no increase in the acid-producing power except in old cultures. Growth in various substances other than maltose failed to alter materially the characteristics of the two types. In a specific serum, the two types showed approximately the same agglutination. A permanent new race, characterized by morphologic peculiarities, was obtained by the selection of an aberrant cell from a culture of dysentery of the Shiga-Kruse type.

South Carolina Medical Association Journal, Seneca

April, X, No. 4, pp. 478-511

160 What We May Do for Infant and Child. W. Weston, Columbia.
161 What We May Expect from Physical Therapeutics in Medicine. A. R. Taft, Charleston.
162 High Purpose of Modern Medicine. T. A. Quattlebaum, Columbia.
163 Surgical Clinics in Europe. H. A. Royster, Raleigh, N. C.

Southern Medical Journal, Nashville

May, VII, No. 5, pp. 349-430

164 Investigation of Malaria in United States by Public Health Service. R. H. von Ezdorf, Mobile, Ala.
165 Malaria as Public Health Problem. H. H. Shoulders, Nashville.
166 *Treatment and Cure of Malaria. C. C. Bass, New Orleans.
167 *Malaria During First Three Months of Life. B. H. Booth, Drew, Miss.
168 *Some Factors in Prevention of Malaria. W. H. Deaderick, Hot Springs, Ark.
169 *Quinin Fast Malarial Parasites; Memorandum. H. R. Carter, Baltimore.
170 Some of Nervous Diseases of Infancy. W. F. Boggess, Louisville, Ky.
171 Vascula Hypertension and Associated Nervous Symptoms. J. A. Hodges, Richmond, Va.
172 Roentgenographic Apocalypses in Chronic Constipation. E. S. Sledge, Mobile, Ala.
173 *Management of Raw Surfaces in Peritoneum. L. E. Burch, Nashville.
174 Gall-Stones Complicating Pregnancy and Puerperium. Report of Six Cases. J. Graham, Durham, N. C.
175 Thyroglossal Cyst and Fistula. Report of Four Cases. H. B. Gessner, New Orleans.
176 Relation of Lateral Sinus to Mastoid Operation. A. O. Pfingst, Louisville, Ky.
177 Rupture of Uterus. W. W. Crawford, Hattiesburg, Miss.
178 Ethics of Sex, or Plain Talk on Eugenics. L. A. Stone, Memphis.
179 Anterior Lens Surface. U. S. Bird, Tampa, Fla.
180 Prevention of Complications of Gonorrhea. C. O. Abernethy, Raleigh, N. C.

166. Abstracted in THE JOURNAL, Dec. 20, 1913, p. 2269.

167. **Malaria During First Three Months of Life.**—In children during the first three months of life, the first clinical manifestation of malaria, Booth says, is usually the finding of the child asleep with a high temperature. It may

or may not have been cross or irritable, but usually, if it has been the fact, it has been overlooked by the family. On waking him, he is exceedingly cross and irritable, jumping from the slightest noise; he is usually very much nauseated, the stomach rejects everything as soon as it reaches it. The temperature rises rapidly, the pulse is at first full and strong, but as the temperature rises it becomes weak and thready; the skin is dry and hot, feeling almost parched to the touch; the respiration becomes rapid and shallow; the patient is constantly moving his hands and feet, rolling his head from side to side if old enough, and if the fever exceeds 103 F. there are usually convulsions, followed by coma. Owing to the unstable equilibrium of the nervous system, all of the nervous symptoms of a malarial attack are exaggerated, and when the infant begins having convulsions, or goes into a state of coma, unless the fever is speedily reduced and the nervous system fortified, death results in a short time. When the infant has been tided over the paroxysm and the immediate danger of death is passed, it is usually found very much debilitated. The child's appetite is now variable; sometimes the stomach is still irritable and easily nauseated, the stools become frequent, watery and have an offensive odor; emaciation is rapid, resulting if untreated, in a speedy death. A microscopic examination of the blood will almost always reveal the malarial plasmodium. If not, the apparent leukocytosis in a case of this kind is almost pathognomonic.

Sometimes, instead of the onset occurring while the child is asleep, the first manifestation of the attack is a convulsion, which comes on without any warning, but after its onset the attack presents practically the same clinical symptoms as already described. Booth has seen these attacks occur in children only two weeks old. They occur most frequently in the late summer, being rare after cooler weather sets in. The treatment is outlined as follows: Cold baths to reduce the temperature, if practicable, and if not, then hot ones. Small doses of heroin and atropin, or morphin and atropin to control the convulsions and equalize the circulation. A good mercurial purgative followed by plenty of castor oil as hot as can be given; also plenty of quinin. After the acute symptoms have subsided, iron in such forms as to be easily assimilated, with essence of pepsin in appropriate doses will cause a quick recovery from the emaciated condition.

168. **Factors in Prevention of Malaria.**—There is one mighty weapon in the campaign against malaria which Deaderick says has been all but neglected in past campaigns, excepting a recent one in California, and that is education. The public should be made familiar with the etiology of the disease, practical preventive measures, and especially with the public health significance of the latent or carrier stage. Many adult inhabitants of malarial sections of this country could not be educated up to practical malaria prophylaxis even with concentrated effort throughout a long life-time, but by devoting careful attention to their children and to their children's children a generation of malaria fighters would be bred.

169. **Quinin-Fast Malarial Parasites.**—When a man is suffering from a malarial infection which from time to time develops into malarial fever Carter points out that the parasites must exist in him during the interval between the attacks although not in sufficient numbers, or in such form as to produce an attack of fever. When enough asexual forms are produced from them to provoke systemic reaction, the relapse is produced. During the interval there seems no evidence that they, the parasites, exist in any other form than as we usually know them, or in any other tissue except the hematocytes, although of course, both are possibilities. The increase of asexual forms should come, then, from the proliferation of the parasites in the ordinary way, and the daughter-parasites should, more or less, partake of the characteristics, original and acquired, of those from which they spring.

In relapsing malaria quinin may be given during the attack sufficient to cure it and to destroy the greater part of the asexual parasites, so that there are not enough left to keep up the attack; it may be given between the attacks in the same doses, and continued some time without preventing the relapse—that is, without killing all the parasites, enough escaping to proliferate later and produce the relapse with an abundance of asexual forms in the cutaneous circulation. The great bulk of the parasites in such relapses are destroyed by ordinary full doses of quinin, but a small number (too small to produce malarial fever and generally too small for asexual forms to be found in the blood) are not killed by them. These, Carter says, are the so-called "quinin-fast" parasites. Two hypotheses are advanced by Carter: 1. The parasites that survive are less susceptible than normal to the action of quinin. 2. They are less accessible to it than normal.

173. **Raw Surfaces in Peritoneum.**—It is essential that all raw surfaces in the peritoneum be covered or protected. The best method is to bring the edges together with a running suture, and if time permits, to use a second suture to reenforce and cover over the first. The use of sutures is not applicable to over 50 per cent. of cases, and in those cases in which sutures cannot be used, Burch says, preference should be given to peritoneal or omental grafts. In cases of general peritonitis, associated with raw surfaces, time is an important element, and a finished technic is unwise. In this class of cases Burch uses warmed camphorated oil, 1 per cent. The method of Richardson should be used in those cases with raw surfaces on the intestine, provided of course, the intestine has a mesentary sufficiently long. Sumners' method of using the sigmoid to cover raw surfaces in the pelvis, Burch says, is indicated in a small proportion of cases. All oozing surfaces should be touched with alcohol or the cautery to prevent infection. Sterile vaseline has an inhibitory influence on adhesions, and if time does not permit of other measures, it should be used.

Texas State Journal of Medicine, Fort Worth

May, X, No. 1, pp. 1-44

181 *New Technic for Total Hysterectomy in Difficult Cases. A. C. Scott, Temple.
182 Primary and Secondary Blood-Clot in Mastoidectomies. R. W. Moore, Fort Worth.
183 Traumatic Injuries of Crystalline Lens. R. H. T. Mann, Texarkana.
184 Vernal Conjunctivitis; Its Symptoms and Treatment. L. H. Lanier, Texarkana.
185 Case of Melanotic Sarcoma of Chorioid. J. Mullen, Houston.
186 Intestinal Toxemia and Senile Cataract. H. L. Hilgartner, Austin.
187 Antitoxic Influence of Thyroid. J. W. Rawls, Thornton.
188 Epilepsy. W. J. Mathews, Abilene.
189 Superficial Urine Examination. W. F. Thomson, Beaumont.
190 Plea for More Care in Life-Insurance Examinations. I. McNeil, El Paso.
191 Specific Infections of Uterus and Adnexa. A. F. Lumpkin, Amarillo.
192 Attitude and Practice of Present-Day Obstetrician. G. H. Lee, Galveston.
193 Surgical Treatment of Perforation in Typhoid. R. T. Morris, Houston.
194 Problem of Feeble-Mindedness. E. A. Wright, Houston.
195 Medical Defense. C. E. Mayes, San Angelo.

181. **New Technic for Total Hysterectomy.**—In the operation described by Scott, the patient is placed on the edge of the table, as if for lithotomy or vaginal hysterectomy, but instead of the limbs being fastened to the upright leg holders at the corners of the table in a position in which the thighs are flexed on the abdomen, the limbs are held so that the thighs are extended and widely abducted. Two operators are required, and the one who operates through the vagina either sits or stands, according to whether the abdominal operator desires the horizontal or the elevated position. Both operators begin simultaneously. The vaginal operator uses no knife at all, but surrounds the cervix with a cautery incision through the vaginal wall, made not far above the point of the cervix on the anterior side, to loosen the cervix from the bladder attachment. In the meantime, the abdominal operator has incised the abdominal wall, separated any adhesions to the uterus and appendages, packed off the intestines, ligated and severed the ovarian vessels and round ligaments and separated the bladder from the uterus, carefully approaching the cautery of the vaginal operation. By cooperation of the two the operation is carried to its termination in the manner described by Scott in detail.

United States Naval Medical Bulletin, Washington, D C.
April, VIII, No. 2, pp. 171-355

196 Typhoid Perforation. Five Operations, with Three Recoveries. G. G. Holladay, U. S. Navy.
197 Tschernogabow's Method for Obtaining Material from Syphilitic Lesions. E. R. Stitt, U. S. Navy.
198 Epidemic of Measles and Mumps in Guam. C. P. Kindleberger, U. S. Navy.
199 Feeble-Minded from Military Standpoint. A. R. Schier, U. S. Navy.
200 Towne-Lambert Elimination Treatment of Drug Addiction. W. M. Kerr, U. S. Navy.
201 Medical Experiences in Amazonian Tropics. C. C. Ammerman, U. S. Navy.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London
May 2, I, No. 2783, pp. 949-1000

1 *Diagnosis and Treatment of Cerebrospinal Syphilis. P. Stewart.
2 Clinical Manifestations of Congenital Syphilis. H. Armstrong.
3 Clinical Importance of Cerebrospinal Fluid. W. Boyd.
4 *Meningitis in Children. W. M. Smith.

1. **Treatment of Cerebrospinal Syphilis.**—Improvement in the condition of the cerebrospinal fluid is a useful index of arrest of the disease, but, Stewart says, it must be remembered that, in general paralysis at least, the cell-count in the fluid may go down without any corresponding improvement in the mental symptoms. This is readily understood when one bears in mind that, even if the disease process be arrested, those nerve-cells and nerve-fibers which have been already destroyed, remain destroyed and cannot be regenerated. It is therefore of importance to select only those cases of general paralysis which are in the early or toxic stage of the disease, before the cortex has become profoundly degenerated. The earlier the disease is recognized, the better are the prospects of improvement. Advanced cases with profound cortical degeneration are totally unsuitable. The most thorough method of attacking general paralysis would be to administer remedies concurrently by all three routes—intravenously, intraspinally and intracranially. It is too early to claim that we yet possess a cure for tabes or general paralysis, but Stewart believes that in suitable cases, much can be done to arrest both diseases. Whether such periods of arrest are permanent, time alone will show.

4. **Meningitis in Children.**—In epidemic meningococcal meningitis the results of the intraspinous injection of a suitable serum, Smith believes, have justified the treatment, and the mortality has been reduced from 70 to about 20 per cent., and, indeed, might be lower were all the cases treated within the first two or three days. A large injection of Flexner's serum—about 20 c.c. even in a child—is given for two or three days, and repeated later if rapid improvement does not take place. In chronic cases with persistent headache and vomiting the injection of the serum is likely to be attended with satisfactory results. In the other forms of meningitis intraspinous injection of a serum is worth trying when the case is seen early, but the results so far are by no means satisfactory. In the chronic forms of meningitis due to syphilis, treatment is now being introduced in which the serum of a patient after treatment with salvarsan is injected into the spinal theca after the withdrawal of an amount of cerebrospinal fluid equal to that which is to be injected. Repeated lumbar puncture, in the hope of minimizing the evil effect of pressure, is indicated, especially in those cases which run a protracted course. In serous meningitis and meningism, lumbar puncture is generally attended with excellent results.

Hexamethylenamin is the drug which is most likely to be useful. It appears in the cerebrospinal fluid, and is said to have an inhibitory effect on the growth of organisms. It may be given in 10 grain doses every four hours, even in young children. Bromid and chloral, trional or morphin may be given as necessary for relieving headache and inducing sleep.

General treatment runs on the ordinary lines—a water bed, the child being moved as little as possible, tepid sponging, and the usual attention to the bowels. Persistent sickness in the chronic cases may be alleviated by washing out the stomach, and, if the vomiting persists, feeding with the nasal tube should be tried. The act of swallowing in some cases seems to cause a tendency to vomit, whereas the nasal tube passed below the pharynx has not this effect. During convalescence, so long as the tongue is clean and the bowels regular, a liberal diet should be given.

Indian Medical Gazette, Calcutta
April, XLIX, No. 4, pp. 129-168

5 Surgery of Tubercular Glands Based on 800 Operations in Kashmir Mission Hospital. A. Neve.
6 Insanity from Exhaustion. G. F. W. Ewens.
7 Analysis of Eighty-Nine Cases of Epilepsy in Punjab Lunatic Asylum. O. Berkeley-Hill.
8 Prophylaxis and Treatment of Pre-Eclamptic Toxemia and Eclampsia. S. Haughton.
9 Anoci-Association and Cancer of Cheek. E. W. C. Bradfield.

Journal of Tropical Medicine and Hygiene, London
April 1, XVII, No. 7, pp. 97-112

10 Meteorology of Malaria. M. D. O'Connell.
11 Brief Note on Toxoplasma Pyrogenes Castellani, 1913. L. Plate.
12 Note on Geographic Locality for Balantidicsis Coli. B. H. Dutcher.

Lancet, London
May 2, I, No. 4731, pp. 1233-1298

13 Modern Theories Concerning Hysteria. J. A. Ormerod.
14 Serio-Roentgenographic Diagnosis of Post Pyloric (Duodenal) Ulcer. L. G. Cole.
15 *Acute Lobar Collapse of Lung. H. L. Tidy and E. Phillips.
16 *Pain after Operation for Internal Hemorrhoids, and Its Prevention. P. L. Mummery.
17 *Early Detection of Diabetes by Simple Method of Estimation of Blood-Sugar. O. Kraus.

15. **Acute Lobar Collapse of Lung.**—Inaction of the muscles of respiration according to Tidy and Phillips is a cause of acute lobar collapse. Blockage of the bronchioles from capillary bronchitis may possibly have a similar result. The authors suggest that lobar collapse may explain cases of pleural effusion without corresponding displacement of the mediastinum and heart. In a case described, acute pleurisy occurred without changes in the lung. Inhibition of the muscles of respiration resulted in acute lobar collapse.

16. **Prevention of Pain after Operation for Hemorrhoids.**—Pain following operations for piles, Mummery says, can be prevented by applying the same principles that have enabled surgeons to avoid pain resulting from operation wounds in other parts of the body. If a wound is made with no bruising or tearing of the tissues, under aseptic conditions, through clean tissues, and is kept aseptic and at rest, pain, except of a very slight and transient character, does not result. The anal region is no exception to this rule, and, given the same conditions, after-pain will be equally absent from operations in this region.

Careful attention to the details of aseptic technic must be observed in order to obtain success. The patient must be so prepared for operation that the rectum is quite empty and will remain so for some days. This is essential. The rectum and the whole of the field of operation must be washed out thoroughly with soap and water, and afterward with a suitable antiseptic, until the surgeon is satisfied that the area of operation is surgically clean. The sphincter should not be stretched or damaged in any way, and the patient must therefore be anesthetized thoroughly and deeply or the sphincter will be in a condition of spasm which will render it impossible for the surgeon to reach the piles properly. The operation must be carried out with as little damage to the tissues as possible. Pressure forceps should not be applied to tissues which are not going to be removed; the mucous membrane or skin at the anal margin must not be included in ligatures, and the number of ligatures applied for the control of hemorrhage must be reduced to the smallest possible number. After the completion of the operation the wound must be bathed with some suitable antiseptic, the best, in Mummery's opinion, being 1 in 40 phenol. Lastly, some form of dressing must be applied which will prevent infection of

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the wound. For this purpose Mummery has found sterilized vaseline to be the best, and the lower part of the rectum may be filled with this.

For the last ten years, he has been operating for piles on these lines, using the ligature operation in all but a few special cases, and has found that postoperative pain is not more severe or frequent than after operations for hernia or varicose veins.

17. **Early Detection of Diabetes.**—The analysis of blood-sugar is carried out by Kraus in the following manner: The pulp of the middle finger is thoroughly cleansed with ether and alcohol and a prick made with a Francke's needle, and about fifteen drops of blood are dripped into a special small glass receptacle. Then by means of a capillary pipette 1 c.c. is measured into a small beaker. The liquid in the beaker is cautiously heated, whilst stirring it up, until it begins to turn turbid. Then 4 to 5 drops of 10 per cent. ferrum oxydatum dialysatum duplex are added, and subsequently a few drops of a saturated watery solution of potassium sulphate, with constant soft boiling and stirring. All of a sudden the albumin will accumulate on the surface, while the liquid beneath will become absolutely clear. This liquid will hold all the sugar contained in 1 c.c. of blood. Two gm. of sulphate of copper are exactly weighed and dissolved in about 100 c.c. of water and cooled down. Then 400 gm. of sulphocyanate of potassium, 12 gm. of ignited carbonate of sodium, and 24 gm. of citrate of sodium are dissolved with the aid of heat in about 600 c.c. of distilled water and filtered. It is then cooled down and the copper solution added by slowly pouring it into the other solution with constant stirring. Five c.c. of a solution of 5 per cent. of ferrocyanid of potassium are now added and the whole is diluted with distilled water to exactly 1,000 c.c.; 0.165 gm. of pure glucose is dissolved in a flask that holds 100 c.c. and is provided with a mark. Then a double tube is inserted and the bottle, neck downward, is put into communication with a special buret by means of a rubber tube. This buret holds 1 c.c. divided into 100 subdivisions. Twenty-five c.c. of the cuprous solution, with 25 additional c.c. of distilled water, are measured into a beaker and heated; then the sugar solution, still boiling, is poured into the beaker, at first rapidly, finally drop by drop.

Kraus generally uses 3.35 to 3.36 c.c. to reduce 25 c.c. of the cuprous solution. The reaction is complete when the color changes from light blue to faint canary. The titration of the blood-sugar takes place on the same principle—25 c.c. of the standard solution are added to the blood filtrate and heated, and the end-point will be obtained by addition of the sugar solution. The difference between the result of the test titration and the amount of sugar solution that it was necessary to add to the blood filtrate, when multiplied by 0.165, gives the percentage of sugar in the blood.

Practitioner, London

May, XCII, No. 5, pp. 601-744

18 *Syphilis and Insanity. G. H. Savage.
19 *Use of Digitalis in Heart Disease. R. D. Powell.
20 *Glycosuria and Its Relation to Disease of Pancreas. P. J. Cammidge.
21 Some Aspects of Cholelithiasis. A. J. Blaxland.
22 Two Cases of Threadworms in Relation to Appendicitis. H. Lett.
23 Anemia in Childhood. R. A. Chisolm.
24 Random Notes in Children's Casualty Department. S. Smith.
25 Choice of Summer Health-Resorts. R. F. Fox.
26 Recent Work on Diseases of Heart. C. W. Chapman.
27 Treatment of Severe Menstrual Pain and Excessive Bleeding by Roentgen Rays. F. Hernaman-Johnson.
28 Toxemia and Autogenous Vaccines. W. B. Thorne.
29 Treatment of Neurasthenia. C. F. Fothergill.
30 Phylacogen Treatment of Rheumatism. A. B. Flett.
31 *Pancreatic Hemorrhage. G. T. D. Elder and D. Daniels.

18. **Syphilis and Insanity.**—Savage's experience, both in hospital and in private practice, is that syphilis is the dominant, if not the sole, cause of general paralysis of the insane. Syphilis may be a cause of congenital mental defect; it may be a cause of preventing healthy development of the brain; or it may interfere with development by the senses, and may thus lead to defective education. It may give rise to convulsions, which may either become established, as epilepsy, or may lead to mental weakness. It may also affect the moral development; and patients with a syphilitic inheritance have, in Savage's experience, not infrequently been morally defective in one way or another, and incapable of recognizing their social duties. Syphilis may cause hypochondriacal feelings, and the presence of stigmata may make the patient believe that he is a suspect, and may thus give rise to delusions of suspicion, melancholia and suicide. Congenital syphilis is almost certainly the cause of adolescent general paralysis. Ordinary general paralysis, locomotor ataxy with mental symptoms, are associated, in nearly all cases in Savage's experience, with a history of syphilis. Besides this, there are many forms of dementia depending on arterial degeneration which may produce general brain decay, or local troubles, such as softening or apoplectic seizures.

19. **Digitalis in Heart Disease.**—That digitalis is not efficient in all disease and disorders of the heart is emphasized by Powell. In acute injuries, such as rupture of the aortic valves, in such acute affections as pericarditis, endocarditis, myocarditis, it is of little or only of quite subordinate value. In chronic disease of the myocardium, of syphilitic, alcoholic or coronary origin, the use of digitalis is of secondary importance, and is often distinctly contra-indicated. It is in chronic valvular disease with failing power of ventricles that digitalis and, in a less degree, the class of drugs which it represents, are especially indicated; in fatigue of heart after acute disease or strain, it is also of great value.

20. **Glycosuria and Disease of Pancreas.**—The first essential, says Cammidge, in the treatment of all cases of glycosuria, is that the diet should be adjusted as accurately as possible to the metabolic powers of the patient, so that, while sufficient food is taken and absorbed to meet the requirements of the body, all unnecessary strain on the defective functions is avoided. Each patient is a law unto himself, as to the kind and quantity of food that can efficiently be dealt with and is best tolerated. One cannot argue from one case to another, or lay down rules that will be generally applicable. Diabetes is essentially a disturbance of the chemistry of the body, in which metabolism of carbohydrates, fats and proteins may all be involved, and to treat patients satisfactorily, one must ascertain their powers of dealing with each of these substances. The earlier in the course of the disease the treatment can be commenced, the easier will be the task and the more satisfactory the results.

31. **Pancreatic Hemorrhage.**—The interesting features of this case are cited by Elder and Daniels to be: the sudden onset of the acute symptoms after an interperiod of general malaise in a man previously healthy; the absence of any indication in the urine of pancreatic disease; the peculiar rash which appeared on the abdomen; the comparatively peaceful interval; and the rapid onset again of acute symptoms; there was no indication at the operation of fat necrosis, such as is usually described in such cases.

It seems to the authors that early operation in these pancreatic hemorrhages holds out the prospect of a much smaller mortality in this generally fatal complaint.

Sei-I-Kwai Medical Journal, Tokyo

April, XXXIII, No. 4, pp. 21-26

32 Calcium Chlorid for Erysipelas. S. Kawakami.
33 Clinical Pathology and Diagnosis of Diseases of the Knee-Joint. D. Matsuoka.
34 Surgical Treatment of Acute Diffuse Suppurative Peritonitis. M. Yasuda.
35 Injury of Intestine and Irrigation for Acute Suppurative Peritonitis. K. Goto.
36 Local Anesthetic for Bubo Operation. S. Honma and M. Kitagawa.
37 Simple Operation for Bubo. K. Kuroiwa.
38 Roentgen Ray for Chronic Eczema and Acute Inguinal Lymphadenitis. S. Doi.

Archives Internationales de Chirurgie, Ghent

VI, No. 4, pp. 369-452. Last indexed March 28, p. 1053

39 *Improved Technic for Correction of Club-Foot. (Tarsectomie pour pied-bot.) C. Willems.
40 *Cancer of the Prostate. P. J. Freyer.
41 Plexiform Neuroma. D. Taddei.

39. **Tarsectomy for Talipes.**—Willems cuts out the skin over the region as the first step, leaving a pear-shaped gap tapering to a point at the heel. Then he removes the astragalus; this corrects the equinus. Then he resects more or less of the calcaneum as needed, and slides the cuboid bone backward into the place of the astragalus and sutures the skin in a single linear suture. By this means the various factors of the deformity are corrected in turn, and the soft parts develop to form a false joint between the cuboid and the tibia, which restores approximately normal functioning to the foot. Almost all forms and degrees of talipes can be readily corrected by this technic, he says. He gives an illustrated description of it, adding that the linear scar and perfect functioning in the 200 cases in which he has applied the method justify its wide adoption.

40. **Cancer of the Prostate.**—Freyer states that he found malignant disease in 13.4 per cent. of the 1,276 cases of enlargement of the prostate in his private practice in the last eleven years. The symptoms are those of ordinary enlargement only that they have appeared and developed in the course of a few months instead of coming on gradually in a few years. This briefer course is very suspicious for cancer; still more if the patient has felt weak and languid, with little appetite, and if he has pains in the sacrum, loins or one or both thighs, along the urethra or in the perineum, and if he has pains in one or both buttocks when he sits down. The patient usually ascribes these pains to "rheumatism." His tongue may be glazed, red and dry, the urine pale and of low specific gravity. Hematuria is extremely rare with cancer of the prostate, and occurs usually only in the advanced stages. In exceptional cases there may be a few drops of blood passed before micturition or independently of it. Profuse hematuria is more a sign of simple adenomatous enlargement of the prostate. When the cancer develops in a previously enlarged adenomatous prostate, and the malignant growth is still confined within the capsule of the gland, the prospects for a complete cure by prostatectomy are favorable, as he shows by eight typical cases related. The article is in English but is not illustrated.

Journal de Médecine de Bordeaux

April 26, LXXXV, No. 17, pp. 277-290

42 *The Mediastinal Syndrome; Two Cases. Creyx.

42. **The Mediastinal Syndrome.**—Creyx emphasizes the importance of treatment for syphilis when confronted by a chronic mediastinitis in an adult. In children the lower part of the mediastinum or the upper part may be involved when symptoms call attention to this region; the inflammation can generally be traced to lesions in the tracheo-bronchial lymph-nodes. In adults the upper portion alone is more liable to be affected, and the source of the trouble may be discovered in the aorta, esophagus, etc. But it may be the only localization of some infection, usually syphilis, and specific treatment may speedily cure the threatening syndrome. In one of the two cases described the chronic superior mediastinitis in a man of 56 proved to be the work of an aneurysm of the aorta in an old syphilitic. The aneurysm had compressed the superior vena cava and a main bronchus. In a second somewhat similar case the symptoms indicated compression of nerves instead of the vessels. Specific treatment will eliminate the syphilitic factor and may cure even when there are severe disturbances from compression of the recurrent nerve, bronchi or esophagus, with reflex tachycardia and spasmodic cough. The sympathetic nerve is usually spared and hence there are no pupil anomalies or vasomotor phenomena in the face.

Presse Médicale, Paris

April 22, XXII, No. 32, pp. 301-308

43 Indications and Contra-Indications for Digitalis Deduced from Its Action on Blood-Pressure and Diuresis. (Quand et pourquoi il faut administrer la digitale.) A. Martinet.

April 25, No. 33, pp. 309-320

44 Technic for Exploration of the Right Hypochondrium. (Technique des explorations régionales: l'hypocondre droit.) F. Lejars. Twenty-four illustrations.

Revue de Chirurgie, Paris

April, XXXIV, No. 4, pp. 401-552

45 Conditions in which It Is Necessary to Resect the Intestine in Operating for Hernia. E. Quénu and H. Constantini.

46 *Chronic Pancreatitis. (Les pancréatites non biliaires.) J. Walter-Sallis. First part in XXXIII, No. 12.

47 *Clinical and Experimental Study of Traumatic Backward Dislocation of the Knee. P. Hardouin. First part in XXXIII, No. 12.

46. **Chronic Non-Biliary Pancreatitis.**—Sallis states that he found only two cases of diabetes mellitus among 250 cases of chronic pancreatitis which he has compiled. On the other hand, he found glycosuria in 11 of 13 cases of syphilis of the pancreas. He noticed it also in a few cases of tuberculosis of the pancreas. The diagnosis of chronic non-biliary pancreatitis is based on a history of digestive disturbances with pains in the epigastric region and right hypochondrium, less frequently in the left; the rapid and considerable loss of flesh; the anemia which accompanies the emaciation; a slight suggestion of jaundice; fat in the stools; slight bulging above the umbilicus, and rigid rectus muscles. The head of the pancreas can be felt hard and knobby, possibly tender and tumefied. When the stomach is inflated, the tumor vanishes. Complications on the part of the bile ducts, intestines and pylorus are by no means rare, as they suffer from compression by the enlarged head of the pancreas. Sallis relates a number of such case-histories from his own experience and summarizes forty-four from the literature. He says in regard to treatment that a mere exploratory laparotomy may induce the retrogression of pancreatitis in its early stage. This has been done in nineteen cases and with success in all. In a farther advanced stage, thorough retro-pancreatic drainage has proved effectual in some cases, both for biliary and non-biliary pancreatitis. If the common bile duct is entirely occluded, the pancreas will have to be cut to release the duct from the bed of sclerous tissue in which it is being smothered. The chronically inflamed pancreas bleeds easily and profusely so that this pancreatotomy had better be done extremely cautiously with the actual cautery. As a rule the pancreas recuperates after an operation very slowly, two, three or nine months sometimes being required. He reports a case in which the symptoms of pancreatitis returned a month after the operation. The pancreas was drained and the patient had apparently entirely recovered, when the pancreas syndrome flared up anew for a few days but then subsided completely.

47. **Backward Dislocation of the Knee.**—Hardouin concludes his long study of this subject by giving full summaries of the seventy-eight cases he has found on record and one from his own experience. In ten cases it proved impossible to reduce the dislocation immediately after the accident. The reason for this was generally that the internal condyle of the femur had been forced through the muscle and fascia and was held firmly in the button-hole thus made. Factors preventing reduction can be suspected when the patella is held immovable against the external condyle, when considerable abduction of the leg on the thigh is possible, and when there is a round hollow in the skin at the interline of the joint. Expectant treatment when reduction at once was impossible gave but mediocre results in the one case in which it was applied. The leg was amputated in one case; resection in another gave good functional results. In seven cases the joint was opened to correct conditions with fine results in three and fair in two cases. Infectious complications followed in two. When the dislocation is of long standing and the patients have learned to get along with it, there is not much use in interfering. The longest interval after which reduction was possible by the ordinary technic was two weeks; Küster found it impossible in one case at the ninth and Reisinger at the seventh week. Hardouin discusses the treatment applicable to the various complications that may arise at the time or later, especially from functional insufficiency of the ligaments. In seven of the cases the dislocation had occurred years before; one man of 70 referred it to a fall at 9 months. In four in this group the deformity was pronounced but did not interfere with

the earning capacity. Another gradually regained the use of his leg after having been bed-ridden from it for two years. Another had to have the limb amputated. Another could use her leg without trouble by wearing a bandage to keep the bone from slipping sideways. The dislocation should be reduced as promptly as possible on account of the danger from compression of nerves and vessels. An almost certain sign of this type of luxation is the horizontal position of the patella with complete dislocation, and nearly horizontal in the incomplete form. This sign is most instructive when the leg is stretched or bent upward.

Revue de Gynécologie, Paris

March, XXII, No. 3, pp. 161-272

48 *Ovarian Treatment. (Lipoides homo-stimulants de l'ovaire et du corps jaune.) H. Iscovesco.
49 Technic for Suture of Severed Ureter. (Urétérorrhaphie dans les sections totales de l'uretère.) P. Sejournet.

48. **Ovarian Treatment.**—Iscovesco called attention in 1910 to the specific physiologic properties of lipoids which can be extracted from some of the organs with an internal secretion. These lipoids seem to act as chemical messengers inducing a kind of autoregulation of the functioning of certain organs. Some seem to stimulate the organ from which they are derived; others act on other organs. Repeated injection of the lipoid extracted from the organ of another individual of the same or another species induces hyperfunctioning and in time hypertrophy of the organ in question. He here reports experiments with the lipoid extracted from the ovary and corpus luteum. It is a homostimulator; that is, it acts mainly, if not exclusively, on the female internal genital organs. He gives some illustrations showing the way in which the ovaries and uterus of rabbits developed under its influence to twice or thrice the size of those in the controls. In 48 cases of painful dysmenorrhea he injected the extract on alternate days for two weeks before the menses, and all but 8 of the patients had no further pain thereafter; in 6 of the refractory cases the course was not complete. The organ therapy proved constantly effectual in 6 cases of amenorrhea and in a much larger number of cases of various disturbances from insufficient functioning of the ovaries. His extensive experience has demonstrated, he says, that injected lipoids do not induce phenomena of anaphylaxis. The aim being to exaggerate the normal functioning, treatment should be mild and gradual and long kept up. The lipoid used in his work was taken from sows, a kilogram of sow ovaries yielding after desiccation 17.3 per cent. of lipoids; among them he used only the alcohol-soluble group.

Revue de Médecine, Paris

April, XXXIV, No. 4, pp. 241-320

50 *Gerlier's Disease. (Kubisagari.) P. L. Couchoud.
51 Gallop Rhythm during and after Typhoid Fever. J. Mollard and A. Dumas. Commenced in No. 3.

50. **Gerlier's Disease.**—This is a peculiar nervous affection characterized by paresis, vertigo and ptosis. It attacks farm laborers and is known only in two localities, where it is endemic—on the Franco-Swiss frontier and in a district in the northern part of Japan. It was first discovered by Gerlier in 1884 and in recent years has been studied in Japan. The inhabitants of both regions are mostly hard-working peasants and the attacks come on only in the summer and when the patients are fatigued. Couchoud states that they last from one to ten minutes and the paresis involves the muscles of the limbs, back, neck, tongue, lips, jaw and eyelids. The head falls forward and there is such marked ptosis that the patient cannot see. The feet or hands cannot be lifted. There is no contracture. When cold weather comes on the attacks stop. The disease is found also in cats and cattle, and in both regions where it is known, the peasants live in close contact with their domestic animals. A small coccus, irregularly grouped and Gram-negative, has been isolated from the cerebrospinal fluid of patients, and when inoculated into cats has produced the disease. Thirty-two case-histories are given.

Revue Médicale de la Suisse Romande, Geneva

April 20, XXXIV, No. 4, pp. 233-300

52 Postappendicitic Cicatricial Pericolitis Cured by Early Operation. (Péricolite membraneuse.) P. Wanner.
53 *Surgical Experiences at the Balkan Wars. N. Guerdjikoff.
54 Enlargement of the Prostate Treated by Bottini's Method. C. Perrier.

53. **Experiences in the Balkan Wars.**—Guerdjikoff had charge of a hospital that cared for 2,289 wounded and 654 sick soldiers during the two campaigns, and here presents some of his impressions of modern warfare. Gunshot and shrapnel wounds are never aseptic, he remarks, but if the first aid measures are properly applied and the wounds treated humanely by surgeons and nurses, if the wounds are not infected by officious meddling, very few infections result. Some of the wounded were brought across the mountains in ox-carts, and many of the injuries, furrows burrowed by bullets or seton wounds, the bullet boring straight through limb, chest or lung, had healed spontaneously on the way. He found that several small incisions through the skin materially hastened the healing of gaseous phlegmons. They were common, and developed rapidly, the second or third day after the injury, and gangrene developed in the cellular tissue and especially around the vessels. By releasing the gas through multiple small incisions, there was no further pressure on the cellular tissue and vessels, and as the blood-supply of the region returned to normal the tendency to gangrene was averted.

He frequently found that the bullet had turned completely around in its passage through the tissues, the point turned backward. The most remarkable course was that of a Mannlicher bullet which hit the skull in the left temple, ran around the skull, passed through the muscles at the back of the neck, then through the lung and back muscles, stopping finally under the skin near the second sacral vertebra.

The guiding principles in military surgery, he reiterates, are to refrain from doing harm, and to release pus. Soldiers under 25 are not fully developed, and after 35 they cannot stand what they could before, but between these age limits the recuperating power is almost incredible, and mutilating operations are rarely needed. He operated only in 194 cases, including all in which he removed the bullet or sequesters under a local anesthetic or made large incisions to release pus. The mortality was scarcely 1 per cent. including all who died from a superposed infectious disease, cholera, smallpox or tetanus. He adds that 3 per cent. of the Bulgarian surgeons at the seat of war succumbed to disease; two were shot and about 1.5 per cent. were wounded. He estimates that about 110,000 of the fighting force were wounded and 60,000 of them died of their wounds or disease while 10,000 were left more or less incapacitated. Boiled water to which 3 or 5 per cent. of tincture of iodin had been added was used freely to flush wounds and pus pockets, and proved a blessed reliance. A salve of 20 parts of balsam of Peru in 80 parts petrolatum was also much depended on. The total absence of all septic complications he ascribes to these and to the systematic use of moist dressings, gauze dipped in a weak disinfectant solution.

Berliner klinische Wochenschrift

April 27, LI, No. 17, pp. 773-820

55 Experimental Rachitis. J. Koch. To be continued.
56 *Tuberculosis of the Liver in Two Children. A. Tietze.
57 Germ of Landry's Paralysis. E. Leschke.
58 Protective Ferments and Serodiagnosis. (Abderhalden'sche Dialysierverfahren.) C. Lange.
59 Theoretical Basis for Serodiagnosis. (Wirkt arteigenes Eiweiss in gleichem Sinne blutfremd wie artfremdes?) E. Friedberger and G. Goretti.
60 Toxicity of Prepared Rabbit-Serum. (Giftigkeit isogenetischer und heterogenetischer Antihammelblut-Kaninchensera.) E. Friedberger and G. Goretti.
61 *Cancers Adapted for Radiotherapy. (Welche Carcinome eignen sich zur Behandlung mit radioaktiven Stoffen?) A. Koblanck.
62 Diathermia. L. Mann.
63 Technic for Preparing Albumin Milk. (Einfache Methode zur Bereitung eiweissreicher Milch.) M. Soldin.
64 Improved Technic for Determination of Occult Blood. (Die Blutprobe nach Boas.) L. de Jager.

56. **Liver Tuberculosis.**—Tietze remarks that tuberculous lesions are found in the liver in nearly every case of miliary tuberculosis, but primary tuberculosis of the liver is so rare that the very possibility is denied by some. In the two cases of liver tuberculosis described the patients were boys of about 5 with pulmonary lesions and one had a tuberculous affection in the heel and lymph-nodes in the neck. The liver became very much enlarged and also the spleen, but there was no fever and no tenderness. Ascites required tapping occasionally and the pulse was much accelerated. Omentopexy was done in each case and an excised scrap of the liver showed tubercle growth. There were no signs of tuberculous peritonitis in either. The operation did not seem to benefit but the liver affection is evidently of a torpid nature and the boys have kept in fairly good condition. A course of roentgenotherapy was also given and the children were kept systematically lying down out of doors, even in winter.

61. **Indications for Radiotherapy of Cancer.**—Koblanck discusses which cancers are amenable to radiotherapy and which offer no chance for success with it. In order for it to be promising it must be possible to apply the radio-active substances close to the cancer and so that the rays can act chiefly on the young cancer cells on the periphery of the growth. The production of soft rays must be prevented. There must be around the cancer, and especially beneath the ulceration, tissue that is capable of regeneration. The cancer must not be too extensive, and there must not be any metastasis in other organs nor any cachexia. Only when all these six requirements are complied with is there any prospect of successful treatment by radiotherapy of internal or superficial cancer. Under favorable conditions, he remarks in conclusion, he would give radiotherapy the preference over operative measures, especially for a cancer of the lip. He has applied radiotherapy in 77 cancer cases to date and has studied the effect in numbers of other cases in the hands of confrères. Of his total cases only 13 were in an operable condition and in 8 of these constitutional disease forbade surgical intervention. The best results were obtained with cancroids of the face, cancers of uterus, vagina and vulva, and cancers of the tonsil and parotid gland. The action of radio-active substances is far from being always brilliant, but under careful selection of cases the proportion of successes will materially increase.

Correspondenz-Blatt für Schweizer Aerzte, Basel

April 11, XLIV, No. 15, pp. 449-480

65 *Multiplicity of Tumors. (Ueber Multiplizität von Geschwülsten.) F. Egli.

66 *Cancer of the Bile Passages and Liver. (Krebs der grossen Gallengänge und die primären bösartigen Geschwülste der Leber.) S. Saltykow.

April 18, No. 16, pp. 481-512

67 Traumatic Ear Disease and Workmen's Compensation. (Begutachtung traumatischer Ohraffektionen.) W. Lindt and R. Nager.

65. **Multiple Tumors.**—Egli states that one or more tumors were found in 966 of 4,765 cadavers at the Basel institute of pathologic anatomy in the last seven years. There were primary multiple tumors in 263; that is, in 27.2 per cent. The tumors were malignant and single in 534; benign and single in 169; one of each in 77; in all the others there were various combinations of multiple malignant plus benign growths or growths in various different organs. In Egli's material of those with four or more tumors 2 were men and 10 women; with two tumors, 31 men and 98 women.

66. **Cancer of the Bile Apparatus Outside of the Gall-Bladder.**—Saltykow quotes the records from some other clinics to show the comparative rarity of this form of malignant disease, and then gives the necropsy details of a number of cases from his own experience in Switzerland. His list includes 9 primary carcinomas of the bile ducts; 8 of the liver; one case of both carcinoma and sarcoma in the liver, and 2 of sarcoma in the liver. In the bile-duct cancer cases, 2 of the patients were 34 and 35 and 2 over 75. Death occurs early, as the ducts soon become obstructed. All but one of the 19 cadavers were males.

Medizinische Klinik, Berlin

April 26, X, No. 17, pp. 711-752 and Supplement

68 *The Continuous Bath in Mental and Nervous Disease. (Anwendung des Dauerbades für Psychosen und Neurosen.) W. Weygandt.

69 *Operative Treatment of Stomach Disease. (Magenchirurgie.) J. Schnitzler. Commenced in No. 16.

70 Complications of Nasal Disease. (Die okulo-orbitalen, intrakraniellen und cerebralen Komplikationen nasalen Ursprungs.) A. Onodi.

71 *Poisoning from Nitrous Gases. R. Tetzner.

72 *Effect of Shrapnel Explosions. (Zur Wirkung der Granatexplosion.) E. Miloslavich.

73 Technic for Serodiagnosis. (Zur Organfrage bei der Anstellung der Abderhaldenschen Reaktion.) E. Lampé and M. Paregger.

74 *Experiences with Friedmann's Treatment for Tuberculosis. (Beitrag zu dem Friedmannschen Tuberkulose-Heilmittel.) W. Treupel.

75 Reactivation and Transmission of Protective Ferments. (Versuche über Inaktivierung und Reaktivierung von plasmafremden Fermenten und ihr physikalisches Verhalten gegenüber dem Substrat.—Versuche über die Uebertragung der Abwehrfermente von Tier zu Tier und die Einwirkung von normalem Serum auf solches, das Abwehrfermente enthalt.) E. Abderhalden and L. Grigorescu.

76 Surgical Work by the General Practitioner. O. Nordmann. Commenced in No. 15.

77 Sparing and Training the Digestive Apparatus. (Schonung und Uebung als Grundlinien der Ernährungstherapie.) F. Heinsheimer.

68. **The Continuous Bath in Mental and Nervous Disease.**—Weygandt traces the history of hydrotherapy in mental disease from the early days when Boerhave in the seventeenth century advocated as a therapeutic measure in mental disease the fright from being suddenly thrown into cold water. The continuous tepid bath has not only a welcome tranquilizing action but it prevents or aids in the healing of skin affections. In the thousands of cases in which he has applied it he has never noted any by-effects, except extremely rarely a slight tendency to syncope. Of course patients with weak hearts may require heart tonics and special care. Any special liability to eczema from the long immersion is easily counteracted by greasing the hands and feet or the whole body. The continuous bath is particularly useful in warding off decubitus in elderly paretics which so often hastens the fatal outcome in progressive paralysis. He asserts that even in his own experience alone, the effect of the continuous bath has been so beneficial on the metabolism and agitation that several patients improved to such an extent that they could return to business, and in numerous other cases it has prolonged life for years. He has an arrangement in the tub that rings an alarm when the water in the tub reaches 38 C.; if the water reaches 40 C. (104 F.) the alarm rings simultaneously in the superintendent's office. One attendant cannot attend to more than four tubs if the patients require much care. He adds that the continuous bath is an important aid also for neurasthenics; the effect is more dependable than mere bed rest as he found by personal experience during a nervous breakdown from over-work. It is also an important aid in healing up decubitus with spinal cord disease, mal perforans in tabes and in spastic paralysis.

69. **Operations on the Stomach.**—Schnitzler denounces gastro-enterostomy as a routine measure in operative treatment of gastric ulcer, saying that it is neither logical nor dependable. In one year recently he encountered five cases of recurrence of a gastric ulcer sooner or later after gastro-enterostomy had been done. More than a hundred cases of peptic ulcer after a gastro-enterostomy have been published, and this is probably far below the actual number. He has had to operate in ten such cases himself. The rule should be, he insists, that if any operation is to be done on the stomach, it should be ample resection. He has found a connection between the ulcer and the pyloric vein in such a number of cases that he is convinced that duodenal ulcer occurs more frequently than is generally recognized. They form fully one-fifth of all ulcers in this region.

71. **Poisoning from Nitrous Gases.**—Tetzner says that thirteen of the thirty-two fatal poisonings from this cause occurred from sawdust being strewn on spilt nitric acid. Nitrous gases are generated when this is done. The main

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symptoms are on the part of the throat and lungs at first, but as these subside in the course of a few weeks, extreme debility, emaciation and nervous symptoms follow and are liable to be permanent. Out of twenty firemen who were seriously poisoned by the fumes during the burning of a chemical works, eleven were permanently incapacitated and one died. After the first disturbances there seems to be little wrong, but by the next day serious symptoms on the part of the air passages develop. A case is reported in detail: A pipe conveying the acid burst as a workman was employed nearby. He fell unconscious but recovered after a time and went downstairs and reported the break in the tube in the distilling room of the trinitrotoluol works where he was employed. A month later he complained still of pain in the chest, cough, subjective sounds, and he was pale, cyanotic, and unable to sleep much. There was a marked constant fine tremor of the entire body, including the head, which has persisted to date. No means of effectual treatment are known; heart tonics may be needed, and diluted lime water or other alkaline waters have been recommended, as also inhalation of oxygen, ammonia, sodium bicarbonate spray, or venesection plus saline infusion. Some recommend further to have from three to five drops of chloroform in a glass of water taken every ten minutes, until the maximal dose of 1.5 gm. has been taken in the course of one or two hours.

72. **Indirect Injury from Concussion with Shrapnel Explosions.**—Miloslavich describes seventeen cases of injury from shrapnel explosions without direct contact, no signs of burns or external injury. Unconsciousness for a time, intense headache, tinnitus, vertigo, disturbance in maintaining the balance, nystagmus and deafness point to special injury of the internal ear. In many cases the symptoms continued to grow more severe as time passed, indicating organic lesions. The injury of the internal ear in such cases is liable to escape discovery on a cursory examination.

74. **Friedmann's Treatment in Lupus.**—Treupel states that Friedmann's treatment was given to five lupus patients at Jena and in three no change in the lupus foci has been detected during the seven or eight weeks to date. In another case a transient bleaching of the lupus foci was noticed about two weeks after the first injection, but this was fleeting and no other change has been detected in the lupus regions during the two months to date. A small infiltration, followed by an abscess from which staphylococci were cultivated, developed at the site of the second intramuscular injection. The fifth patient was a robust young man with several lupus foci. At first one of the multiple lupus patches seemed to be a little flatter around the edges and there seemed to be less scaling. This apparently favorable effect from the treatment was but transient, no further improvement becoming manifest although this patient has been under observation for several months to date. There was a pronounced temperature reaction to the *Simultaninjektion* and severe jaundice which much debilitated the patient so he has lost over 19 pounds in weight and the jaundice has not subsided entirely although nine weeks have elapsed. Treupel remarks in conclusion that as others have reported isolated cases of jaundice after Friedmann treatment, and even fatalities have been published, and also instances of contamination of the remedy with staphylococci and other bacteria, and as no improvement of any practical significance was observed in his experience, he has no intention of using the remedy further in its present form.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

April, XXXIX, No. 4, pp. 459-596

78 *Effect of Medicated Douches on the Bacterial Content of the Vagina. E. Zweifel.
79 Cesarean Section for Complete Ankylosis of Both Hip-Joints. H. Fuchs.
80 *Results of Treatment of Uterine Cancer with Mesothorium as Shown by Operations after Irradiation. C. Weinbrenner.
81 Case of Carcinomatous Cholesteatoma of the Breast. W. Lahm.
82 Etiology of Myoma of the Uterus. W. Benthin.
83 Danger of Small Doses in the Roentgen Treatment of Inoperable Carcinoma. E. Sachs.

78. **Effect of Medicated Douches on the Bacterial Content of the Vagina.**—Zweifel tried douches of various salts of mercury, potassium permanganate, etc., and found that the number of bacteria were reduced temporarily but that they returned after a short time. He also tried Schweitzer's method of irrigating the vagina in cases with a pathologic secretion with a 0.5 per cent. solution of lactic acid, with a view to preventing puerperal fever. His conclusion is that douches of this kind kept up for a period of ten days or longer really have a beneficial effect.

80. **Treatment of Uterine Cancer with Mesothorium.**—Weinbrenner describes three cases operated on after mesothorium treatment for carcinoma of the uterus. The operation wounds healed very slowly, and this he attributes to the effect of the mesothorium. Moreover, there seemed to be a tendency to the formation of fistulas long afterward from necrosis of the degenerated connective tissue.

Münchener medizinische Wochenschrift, Berlin

April 21, LXI, No. 16, pp. 857-912

84 *Creatinin Test of Functional Capacity of the Kidneys. (Verwendung von Kreatinin zur Prüfung der Nierenfunktion.) O. Neubauer.
85 *Resection of Ribs or Filling as Means to Immobilize Tuberculous Lung. (Pfeilerresektion oder Plombierung bei Lungentuberkulose.) M. Wilms.
86 The Protective Ferments. (Nachweis der blutfremden Fermente mittels gefärbter Substrate.—Verwendung der Vordialyse bei der Fahndung auf Abwehrfermente unter Anwendung des Dialysierverfahrens.) E. Abderhalden and F. Wildermuth. (Experimentelle Untersuchungen über die Spezifität der proteolytischen Serumfermente.) F. Rosenthal and H. Biberstein.
87 The Volatile Elements in Coffee. (Flüchtige Bestandteile des Kaffees.) J. Abelin and M. Perelstein.
88 Action of Air on Albumin and Carbohydrate Metabolism. (Einwirkungen der Atemluft auf den Eiweiss- und Kohlehydratstoffwechsel.) M. Bache, W. Auel and O. David.
89 Protein Requirement and High Cost of Living. (Eiweissbedarf und Fleischteuerung.) J. Decker.
90 Mineral Waters in Treatment of Blood-Disease. (Zur Behandlung von Blutanomalien mit Dürkheimer Arsensolbädern.) Lehnert.
91 *Symptom of Cerebellar Abscess. (Neues Symptom bei Kleinhirnabszess.) M. Mann.
92 Nutmeg Poisoning; Two Cases. (Muskatnussvergiftung.) R. Beck.
93 Industrial Poisoning from Methyl Chlorid. (Eigenartige Narkosezustände nach gewerblicher Arbeit mit Chlormethyl.) H. Gerbis.
94 Diagnosis of Salivary Concrements. (Speichelsteine.) O. Heinemann.

84. **Creatinin Test for Examination of Kidney Functioning.**—Neubauer calls attention to the instructive difference in the elimination of creatinin by sound and diseased kidneys after ingestion of 1.5 gm. dissolved in 100 or 150 c.c. of sweetened water. He has thus tested the functional capacity of the kidneys in ten healthy persons and seventy patients. The healthy eliminate in the urine in the next six hours from 60 to 90 per cent. of the creatinin thus ingested and all or nearly all of the rest in the following six hours. With diseased kidneys less than 20 per cent. is eliminated in the first six hours and the elimination drags over days. This functional weakness in regard to creatinin is apparent in every case in which any of the other functions of the kidneys are impaired and hence this test is particularly sensitive for any form of derangement. The findings were most pronounced when there were signs of uremia, regardless of whether there was hydrops or not. The creatinin test is of little diagnostic import when only one kidney is diseased. With known disease of one kidney, defective elimination of the creatinin is a sign that the supposed sound mate is impaired also. Instructive findings can be obtained by catheterization of the ureters and comparison of the natural creatinin content. The natural creatinin content of the blood is also augmented in case of impaired permeability of the kidneys. The proportion of creatinin in the body fluids is best determined with a color scale.

85. **Resection of Ribs or a Filling in Treatment of Pulmonary Tuberculosis.**—Wilms' latest communication on his method of immobilizing the lung was mentioned in these columns May 9, p. 1513. He here extols the superior advantages of a filling for the purpose, plugging the space with

adipose tissue or paraffin if the same results can be realized with it. Whether this can be done depends, he says, on the size of the space to be filled. For various reasons the lower lobe cannot be immobilized so well by a filling, but it answers finely for the upper lobe, and by combining a filling to compress the upper lobe with resection of ribs, close to spine and sternum, to immobilize the lower lobe, the entire lung on one side can thus be shut off from functioning. This combination makes less demands on the patient, and the effect in his cases to date has been extremely good. He used a paraffin filling in two cases and found it satisfactory to date. In others he implanted adipose tissue to plug the space; it was taken from the patient himself in two cases, in three from other patients. Everything seems to indicate that the fat heals smoothly in place and maintains a durable compression. With this filling technic he insists that we are justified in applying immobilization treatment to recently developed and comparatively small cavities.

91. **Symptom of Cerebellar Abscess.**—Mann noticed that a child with cerebellar abscess causing deep somnolency, warded off persons attempting to rouse him by making defensive movements with the arm of the sound side alone. He did not use at all the arm on the side of the abscess, although it was not paralyzed or injured. The same tendency to refrain from using the arm on the diseased side was evident also in another patient convalescing from an operation for a cerebellar abscess. Mann found that a similar experimental experience was published by Luciani twenty years ago; he related that after removal of part of the cerebellum of a dog, if one ear was pinched with forceps the dog soon scraped off the forceps if it was the ear on the sound side, but he made no attempt to scrape it off if it was on the ear on the same side as the cerebellar lesion. Mann found that the patient used both hands to defend himself in a recent case of abscess in a frontal lobe. The means he took to elicit the defensive movements in these cases was holding the patient's nose.

Wiener klinische Wochenschrift, Vienna

April 23, XXVII, No. 17, pp. 497-544

95 *Chronic Tobacco Poisoning. (Chronische Tabakvergiftung.) H. Favarger.
96 *Differential Diagnosis of Substernal Goiter. K. Engel and R. Holitsch.
97 Disease of Aorta from Inherited Syphilis. H. Neugebauer.
98 Subdeltoid Hygroma. (Zwerchsackhygrom an der Schulter.) H. Lorenz.
99 Varices in Thoracic Duct. A. Priesel.
100 Psychology of Children. (Zur Kinderpsychologie und Neurosenforschung.) A. Adler.

95. **Experimental and Clinical Study of Chronic Tobacco Poisoning.**—Favarger has for years made a study of this subject and here gives the details of twenty-one cases of disturbances on the part of the heart from abuse of tobacco. Experiments on animals seemed to indicate that the nicotin element alone is responsible for them. The first sign of trouble is palpitations, and if the abuse of tobacco is not excessive this may be the only symptom. With continued abuse, arhythmia and intermittent or abnormally slow or fast pulse may follow with sensations of oppression, precordial distress, weakness and insufficiency of the myocardium dyspnea, cardial asthma, Cheyne-Stokes, cyanosis and finally fatal paralysis of the heart. Types of all these are included in the cases he reports, six with fatal paralysis of the heart. It is his impression that abuse of cigar smoking has a more deadening influence, the senses and memory becoming less acute and the heart suffering more than from excessive cigarette smoking. With the latter the symptoms of abnormal excitability of the nervous system predominate. The dependence of certain gastro-intestinal disturbances on nicotin poisoning has been confirmed innumerable times, he says, by their coming and going parallel to abuse and abstention from smoking. They range from the common lack of appetite, diarrhea or constipation to extreme emaciation and gastric ulcer; the latter may be the direct result of defective blood-supply from vascular spasm or weak heart action, these factors possibly supplemented by swallowing the smoke and particles of tobacco. He knows of many cases of myocardium trouble from tobacco poisoning in which there are no signs of arteriosclerosis. The latter is common in nicotin poisoning but not so universal as some assume. The myocardium symptoms are those that correspond to fatty degeneration, but post-mortem examination is rarely permitted in cases of nicotin poisoning as they are generally encountered in private practice.

96. **Differential Diagnosis of Intrathoracic Goiter.**—Engel and Holitsch call attention to the abnormal width of the shadow cast by the organs above the heart and apparently below the thyroid when the enlarged thyroid extends downward behind the sternum. This abnormally wide middle shadow may extend beyond the inner third of the clavicle possibly to its middle. The trachea may also deviate from the middle line even in the neck, while the arch of the aorta is pushed also to one side or downward. As the patient swallows, the entire shadow of the middle portion rises from 0.5 to 1 cm. and then falls again; with an aneurysm there is not this displacement during swallowing. The edges of an aneurysm shadow show pulsation toward every direction but there is no pulsation evident in the shadow of a substernal goiter, or it is only propagated in one direction. The shadow of the goiter is always sharply defined from the lung while the shadow of a tumor generally extends more or less into the lung. The most instructive sign, however, is the rising up of the shadow or the area of dulness over the manubrium as the patient swallows. If the substernal goiter is fastened down by adhesions, even this sign may fail.

Zeitschrift für Kinderheilkunde, Berlin

XI, No. 1, pp. 1-80. Last indexed May 2, p. 1444

101 Radiographic Diagnosis of Different Forms of Stridor in Children. E. Raeh.
102 Tests for Presence of Formaldehyd in the Urine after Administration of Hexamethylenamin. W. v. Breunig.
103 Spontaneous Gangrene of the Extremities in Two Children. A. v. Khautz.
104 *Exfoliating Dermatitis. B. Sperk.
105 Early Editions of Glisson's "De Rachitide." E. Ebstein.

104. **Exfoliative Dermatitis.**—Sperk describes fifteen cases of exfoliative dermatitis. It is a disease of the first few weeks of life. In several cases he examined the bladder contents bacteriologically, and in all these cases he demonstrated staphylococci both microscopically and by culture. In one case he found *Staphylococcus pyogenes albus* in the blood. The affection seems to belong, therefore, in the group of staphylococcic pyodermias and this explains why it is so easily transmitted and why isolation is so necessary in children's hospitals.

Grèce Médicale, Athens

XVI, Nos. 5-6, pp. 9-12

106 Functional Paraplegia of Traumatic Origin in Young Soldier. C. T. Manthos.

Gazzetta degli Ospedali e delle Cliniche, Milan

XXXV, Nos. 45-49, pp. 473-520

107 Operative Treatment of Abscess in Infant's Lung. (Intervento chirurgico per un ascesso polmonare in bambino lattante.) P. Pozzato.
108 The Insensitive Skin of the Arab. (La iposensibilita cutanea degli arabi.) M. Tortora.
109 Retrograde Incarceration of Hernia. L. Bozzotti.
110 Preventive Diphtheria Antitoxin Treatment. (Difterite e sieroprofilassi.) N. Bassi.
111 Spastic Paraplegia of Syphilitic Origin. A. de Blasi.
112 *Treatment of Pruritus. G. Thibierge.

112. **Pruritus.**—Thibierge remarks that with generalized pruritus internal measures to combat the intestinal fermentations, liver, uterus or kidney derangement or other trouble causing the diffuse toxic pruritus may be aided with pastes containing menthol or phenol. With localized pruritus, especially at the anus or vulva, more energetic local measures are needed, and he commends silver nitrate in particular, in quite concentrated solutions for anal pruritus, or even applying the nitrate pencil. This hurts for a few hours, but gives the greatest relief. He has found lumbar puncture, repeated two or three times, successful in general or local pruritus in

some cases absolutely rebellious to all other measures. It is not necessary to withdraw more than 3 or 4, or at most 6 c.c. of the cerebrospinal fluid.

Policlinico, Rome

April 19, XXI, No. 16, pp. 557-592

113 *Recovery from Osteomalacia under Epinephrin. (3 casi di osteomalacia curati col motodo Bossi.) T. Cavazzani.
114 Rapid Determination of Blood in the Stools. (Pronto metodo di ricerca quantitativa del sangue nelle feci.) D. Assenelli.

April 26, No. 17, pp. 593-628

115 Recent Progress in Therapeutics Is Based Mainly on Animal Experimentation. L. Verney.

113. **Epinephrin in Treatment of Osteomalacia.**—Cavazzani's three patients were women who had borne one or more children. The epinephrin treatment was commenced in the first case a week or so after the first symptoms which had come on with an acute onset a few days after delivery; the treatment was promptly effectual. The osteomalacia had developed not long after delivery in the second case, but two months elapsed before treatment was begun and it was not kept up regularly and the results were less striking than in the first case. The third was an old chronic case and irreparable lesions were already installed but marked improvement was realized.

Riforma Medica, Naples

April 11, XXX, No. 15, pp. 393-420

116 Intravenous Injections of Salvarsan and Neosalvarsan. L. Martinotti.
117 Primary Tuberculosis of the Tongue. (Caso di ascesso tubercolare della lingua.) G. B. C. Fulle.

Rivista Ospedaliera, Rome

March 30, IV, No. 6, pp. 269-316

118 *Magnesium Sulphate in Treatment of Chorea. (La corea di Sydenham trattata col metodo Marinesco.) A. Natali.
119 *Treatment of Traumatic Extravasation of Blood in the Knee. (Il metodo cinetico del de Thooris nelle emartrosi traumatiche del ginocchio.) U. Pasini.

118. **Magnesium Sulphate in Chorea.**—Natali has applied intraspinous injections of magnesium sulphate in seven cases of chorea minor and one of chronic chorea. The affection was of fourteen, twenty-five or sixty days' duration or from one to seven years. With the exception of one case in which the attacks were almost continuous, there were periods of remission. He injected from 1.5 to 3 c.c. of a 7 to 25 per cent. solution. Three of the patients were entirely and four nearly cured, but the chronic chorea did not seem to be modified. The improvement was gradual and progressive. A course of arsenic seemed to hasten the cure. This treatment naturally should be reserved for the more serious and rebellious cases.

119. **Treatment of Traumatic Hemarthrosis in the Knee.**—Pasini extols de Thooris' method of treatment which requires no operation, no appliances and no drugs, nothing but the skillful application of movements. The patient is kept on his back in bed, not allowing him to get up on any pretext or flex his knee, and the bed-clothes should leave the leg free. He should then raise his leg without bending it at the knee. This extension of the leg on the thigh has a direct curative action on traumatic extravasations in the knee. The leg should be lifted up until it is at a right angle to the horizontal body. At first the movement has to be done passively, and then be aided for a time until he can do it alone. The limb should be raised slowly and regularly and lowered in the same way, repeating the movement often but not to the point of fatigue, and distributing the movements at regular intervals over the day. During the intervals a wet pack is applied but without the least compression. It is useful also to contract the extensor muscles from time to time, even in repose. The sign that conditions have improved so that the patient can get up is when the patella slides out from the grasp of the finger and thumb holding it lengthwise, the leg hanging loose, when the patient contracts suddenly his extensor muscles. This occurs in normal conditions but the patella does not slide out from the grasp in this way when there has been extravasation of blood in the joint for some months. When first allowed to get up, the patient should complete the treatment by holding the joint stiff.

Tumori, Rome

III, No. 5, pp. 569-690. Last indexed April 11, p. 1209

120 Retroperitoneal Neuroma. (Neuroma gangliocellulare mielinico retroperitoneale.) G. Fichera.
121 Antigens for the Meiostagmin Reaction with Cancer. III and IV. G. Izar and P. Ferro.
122 Hypernephroma of Lower Pole of Kidney Causing Intestinal Symptoms and Cachexia. (Ipernefromi.) V. Saviozzi.
123 Chronic Mastitis and Benign Tumors. (Flogosi croniche e tumori benigni della mammella.) A. Cimoroni. To be continued.

Mitteilungen a. d. med. Fakultät d. k. Univ. Tokyo

XI, No. 1, pp. 1-196. German Edition

124 Ventrolateral Pyramidal Tract. (Zur Kenntnis der ventrolat. Pyramidenbahn Barnes und der Dreikantenbahn Helwegs. Zur Frage der Leitungsbahn im lateralen Markfeld der Olive und in der anterolat. Rückenmarksperipherie.) S. Yamakawa.
125 Diaphragmatic Hernia. R. Watanabe.
126 Anatomy of the Ear in the Japanese. (Aeusserer Gehörgang und Trommelfell der Japaner.) H. Iwata.
127 Bacillus in Acute Knee Process. (Zur Salmonellagruppe gehörigen Bacillus als Erreger einer akuten Kniegelenkentzündung. II.) S. Yamakawa.
128 Acute Lymphatic Leukemia. S. Yamakawa.
129 Mercurial Inunctions in Prophylaxis of Japanese Mycosis. (Tsutsugamushikrankheit. VI.) M. Ogata.
130 *Rat-Bite Disease an Aspergillus Infection. Mercurial Inunctions in Prophylaxis and Treatment. (Aetiologie und Therapie der Rattenbisskrankheit. III.) M. Ogata.

No. 2, pp. 197-308

131 Orthodiagraphy of the Heart in Healthy Japanese. A. Imamura and S. Nukada.
132 Tetragenus Sepsis; Recovery. I. Yamakawa.
133 The Occipital Region of the Brain in the Japanese. (Ueber den Hinterhauptlappen des Japanergehirnes.) M. Hayashi and R. Nakamura.
134 *Function of the Thymus. I. S. Shimizu.
135 The Pepsin in the Urine. (Harnpepsin.) S. Okada.

130. **Rat-Bite Disease**—Ogata's clinical and experimental research has confirmed the fact, he says, that a fungus with which the individual is inoculated when bitten by the rat is the cause of the clinical picture known as rat-bite disease. The fungus seems to be of the aspergillus family and to be readily destroyed by mercurial inunctions, improvement and complete cure following on a course of mercurial inunctions. The three cases here reported bring to eleven the cases he has encountered.

134. **Thymus Functioning.**—Shimizu found that the serum from rabbits treated beforehand with dog thymus caused marked destruction of thymus tissue when injected into young dogs, in addition to phenomena of anaphylaxis. There seems to be no doubt that the prepared serum contains an actual thymolysin. It acts on the dogs in a way similar to the disturbances in development which follow removal of the thymus in young dogs. The medullary portion of the thymus seems to have a different function from the cortex, and it is probably the medullary portion, he says, which secretes the internal secretion.

Brazil-Medico, Rio de Janeiro

April 8, XXVIII, No. 14, pp. 133-142

136 *An Endemic Adenomycosis in Brazil. (Nova molestia humana.) E. Dias.
137 *Morbidity of Rio. (Nosologia e mortalidade da cidade do Rio de Janeiro.) P. Barbosa and S. Vianna. Commenced in No. 11.

136. **Endemic Adenomycosis.**—Dias describes an affection of the lymph-nodes in the neck which is endemic in his district, Minas, and which can be reproduced in animals. Separate lymph-nodes swell enormously but never suppurate; the symptoms suggest leukemia or tuberculosis at first. The course is always fatal; sometimes in six or eight months, or not for two or three years. Potassium iodid seems to have benefited in one case at least. He has four under observation at present. A mycelium can be cultivated from fluid aspirated from one of the lymph-nodes affected, and inoculation of white rats kills them in a few days.

137. **Morbidity of Rio.**—In this review of sanitary conditions in Rio we note that the mortality from plague has

dropped gradually since 1903 from 48 per hundred thousand inhabitants to 0.81; leprosy keeps about the same, 2.09 in 1890 and 3.33 in 1912; beriberi has dropped from 16 in 1903 to 1.43 in 1912; diphtheria has ranged from 9.1 in 1868 to 43.4 in 1883. Then came a sudden drop to 6.5 in 1890; since then it has ranged from 1.3 to 6.4—the latter figure in 1912. There have been only 24 deaths in all from scarlet fever since 1903. The deaths from dysentery are what swell the mortality at Rio, the figures in 1869 being 41.68 and in 1912, 18.81. The general mortality has been 20.5 per thousand, surpassed by cities in Egypt, India and Russia, Naples and Trieste.

Semana Medica, Buenos Aires

March 26, XXI, No. 13, pp. 689-736

138 The Prognosis in Heart Disease. (Elementos de pronostico en los cardiacos.) J. Destefano.
139 Peculiar Reaction of Phosphorus with Silver Nitrate. (Nueva reaccion microquimica del fosforo.) Maestre and A. Lecha-Marzo.
140 Interstitial Keratitis. ((387 casos de queratitis intersticial.) J. Santos Fernandez.

April 2, No. 14, pp. 741-788

141 Amino-Acid in the Urine in Diabetes. (Las amino-acidurias de los diabeticos.) C. B. Udaondo and M. Casteigts.
142 Painful Epigastric Hernia with Gastric Ulcer and Cancer. A. G. Gallo.
143 Hypophysis Extract in Hemoptysis. B. A. Houssay.
144 Exostosis with Bursa. (Exostosis bursata.) J. F. Relcalde.
145 Operations on Stomach and Duodenum. (Comentarios sobre cirugia gastro-duodenal.) L. Mondino and D. Prat.
146 Mycelium in Biochemistry. (La micela en bioquimica.) J. R. Carracido.
147 Examination of Seminal Stains. (Todavia nuevos metodos para la demonstracion de los zoospermos en las manchas.) Maestre and A. Lecho-Marzo.

Nederlandsch Tijdschrift voor Geneeskunde, Amsterdam

LVIII, No. 1, pp. 1-77

148 Importance of Streptococci and Their Products in Various Infectious Diseases in Man and Animals. E. Bemelmans.
149 Fluorescent Reaction in Certain Urines. (Een nieuwe reactie in urine.) F. A. Steensma.

No. 2, pp. 78-149

150 Sterilization of Hands and Field of Operation. (Heelkundige aseptik.) I. H. Kuijjer.
151 Brain Tumor or Hysteria? (Hersengezwel of hysterie?) G. C. Bolten.

No. 3, pp. 150-236

152 *Catarrhal Pyelitis. (Nierbekkencatarrh.) A. Bijnen.
153 Duodenal Ulcer; Two Cases. (Zweer in den twaalfvingerigen darm.) J. de Groot.

152. **Catarrh of Kidney Pelvis.**—Bijnen is an advocate of direct medication of the kidney pelvis with a silver salt and states that twenty-two of the twenty-four patients he has treated in this way seem to be clinically cured. In the other cases there was a tendency to stone formation which kept up the irritation.

St. Petersburger medizinische Zeitschrift

April 14, XXXIX, No. 7, pp. 85-96

154 *Artificial Respiration in Case of Central Paralysis of the Respiration. (Künstliche Atmung bei zentraler Atemlähmung.) P. Bode.
155 *Application of Large Magnet in Gastro-Intestinal Derangement. G. Plotkin.
156 Concentrated Solutions of Salvarsan and Neosalvarsan. J. Grunberg.

154. **Artificial Respiration for Central Respiratory Paralysis.**—Bode's first patient was a man of 38 with a focus of softening in the third and fourth ventricles with resulting compression of the respiration center. The skull had been trephined on the assumption of an abscess in the brain, but the focus was not reached. An hour later respiration stopped completely but the heart was kept beating by artificial respiration for fifteen hours, when death finally ensued. The second patient was a woman of 29 with some organic brain process which caused sudden arrest of the respiration; she too was kept alive for fifteen hours by artificial respiration. There was no necropsy. The original Silvester method proved the simplest and most effectual in these cases, but when the artificial respiration has to be applied in the course of an operation, Bode prefers the Schuller technic on account of asepsis.

155. **The Magnet in Gastro-Intestinal Diseases, Etc.**—THE JOURNAL mentioned recently Payr's work with a large magnet applied to the abdomen after the patient has taken a suspension of fine iron particles. The magnet acting on the iron draws the loops of intestines around and lifts them up, and it is possible in this way to exercise them at will. Plotkin here extols the capabilities of the method, saying that it can be applied to dilate a stricture or diverticulum, to aid in correcting displacement of the uterus and in prophylaxis and cure of adhesions. He sees such a wide range of usefulness for the measure that he says he thinks that digestive diseases, at least, are entering on an era of "ferromagnetism." (See abstract 134, p. 171).

Hospitalstidende, Copenhagen

April 22, LVII, No. 16, pp. 481-512

157 Precipitation with Sodium Glycocholate in the Cerebrospinal Fluid Not a Reliable Test for Syphilis. (Om Fældningsreaktionere med glykocholsurt Natron ved Cerebrospinalvæske.) C. With.
158 The Filament Galvanometer and Electrocardiography. (Phonokardiogrammet.) O. V. C. E. Petersen.

Hygiea, Stockholm

April 1, LXXVI, No. 7, pp. 385-448

159 *Hemolytic Jaundice. (Hämolytisk ikterus.) O. Lindbom.

159. **Hemolytic Jaundice.**—After a comprehensive review of what has been published on this subject to date, Lindbom reports a case from his own practice. His patient was a young woman and the attacks of pain and intense jaundice were long attributed to gall-stones. Investigation revealed five other cases in the same family; three of the woman's sisters, her mother and her grandmother all had more or less jaundice and it dated from early childhood. There was also more or less anemia, with characteristic blood-findings; discovery of these other cases in the family threw discredit on the diagnosis of gall-stones, especially as the spasmodic pain was referred to the left side and no point of special tenderness could be found in the gall-bladder region. Even if an operation had revealed gall-stones, their removal would not have affected the main element in the syndrome, the excessive destruction of red corpuscles. A course of cholesterin treatment was instituted, a daily dose of 1.5 gm. cholesterin dissolved in oil. If this fails the spleen will be exposed to the Roentgen rays and, as a last resort, splenectomy will be proposed. Hemolytic jaundice may prove more common than now supposed. It is highly probable that many cases of it have been mistaken for gall-stone trouble; the decisive symptom is the reduced resisting power of the red corpuscles to hypotonic salt solution.

Ugeskrift for Læger, Copenhagen

April 23, LXXVI, No. 17, pp. 727-778

160 *Treatment of Puerperal Mastitis. (Om behandling af galactoforitis.) E. Hauch.

160. **Treatment of Puerperal Mastitis.**—Hauch describes the methods of treating inflammation of the milk ducts at the Copenhagen maternity. The child is allowed to nurse as long as it will, and then afterward the breast is massaged and milked entirely dry and heat is applied, or with a powerful breast-pump it is emptied dry and then an ice-bag is applied. None of the fifty-five cases treated with massage and heat came to an abscess; as a rule the temperature speedily dropped, although in ten cases there was a relapse later. There was a relapse in only eight of the seventy cases treated with vacuum suction and ice, so that the latter technic is now regarded as the best, especially as recovery proceeds more rapidly. An abscess developed in one of the ice-treated cases. None of the children seemed to suffer from the effects of the galactophoritis; in about a third of the first group of cases supplementary artificial feeding became necessary, and in about a fifth of the ice-treated cases (16 to 55 and 15 to 70). Massage is liable to do harm; it may rupture a distended milk duct in unskillful hands, while the vacuum-suction treatment can scarcely do harm under any circumstances, and it does not cause pain like the massage.

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